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Archives of Dermatology and Syphilology

VOLUME 31 JANUARY 1935 NUMBER 1

WORK OF THE COUNCIL ON PHARMACY AND CHEMISTRY IN DERMATOLOGY AND SYPHILOLOGY

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INTRODUCTION

As one glances through various foreign dermatologic journals or foreign medical weekly publications, one is surprised at the advertisements for various proprietary medicines or patent remedies. As a rule the remedy has a suggestive designation and its formula is essentially secret. The reader is forced to accept the information and claims as stated in the advertisement unless he is in a position to carry on his own investigation. All too often the sole recommendation which is included in the advertisement is that the remedy has been used in Professor So-and-So's clinic and that he endorses it; why he endorses it is another story, generally not divulged.

WHAT IS THE STATUS IN THE UNITED STATES?

Dr. George H. Simmons,[1] editor emeritus of *The Journal of the American Medical Association,* said that as early as 1879 the American Medical Association adopted preambles and resolutions strongly condemning the use of secret and semisecret proprietary mixtures in the practice of medicine. Hardly a year passed that the question was not brought up before the Association in some form. Conditions, however, grew continuously worse until the problem became acute in regard to the advertising pages of *The Journal.* "Should all advertisements for all proprietary medicines be discarded? Are all proprietary medicines bad? In fact, is there not some way of making a selection?" To answer these questions the Council on Pharmacy and Chemistry was created. The pioneer medical editor, Dr. Simmons, then adopted the rule of excluding, both from the articles and from the advertising pages of his journal, all therapeutic agents that had not been passed on favorably by the Council.

From the Department of Dermatology and Syphilology, School of Medicine, Western Reserve University.

President's address, read at the Fifty-Seventh Annual Meeting of the American Dermatological Association, Inc., New York, June 7, 1934.

1. Simmons, George H.: The Work of the Council on Pharmacy and Chemistry: Its Effect on Medical Progress, South. M. J. **8**:259 (April) 1915.

In the words of a revered deceased member:[2] The Council was "organized primarily for the purpose of putting a stop to false declarations with regard to the composition of proprietary medicines; the Council's activities have broadened until its work may be characterized as a 'propaganda for the rational use of drugs.'" Is there any branch of the medical profession in which this guidance is more urgently needed than in the profession of the dermatologist and of the syphilologist?

It is a far cry from away back in 1905—nearly thirty years. The pioneer workers (several of them are still on the Council) have seen great things transpire. Some of them have passed on—Drs. Hallberg, Hess, Long, Howland, Peabody and Wilbert, as well as the veteran secretary and indefatigable worker, Prof. W. A. Puckner. Others have for various reasons felt it necessary to step aside and turn over their duties to younger hands. Though the personnel of the Council changes from time to time, the vision is still clearcut and the work still goes on.

PERSONNEL AND WORK OF THE COUNCIL

The Council is a standing committee of the Board of Trustees of the American Medical Association, and membership is by appointment by the Trustees of the American Medical Association of persons who are nominated through secret ballot of the Council.[3]

Perhaps a short explanation of the workings of the Council will give dermatologists, both here and abroad, a better idea of the activities of this body and of the methods that are used by the American Medical Association in evaluating and introducing remedies. An excellent review of this same subject was recently published by Heubner.[4] As a rule, membership in the Council, though appointments are made for periods of five years, is continued as long as the member is active. All of the work of the Council is impersonal as far as the relation of the Council to the public, to the medical profession and to the pharmaceutic industry is concerned, the motto being: *Non sibi sed medicinae.* Correspondence is carried on entirely through the secretary of the Council, never through

2. Puckner, W. A.: The Council on Pharmacy and Chemistry, Present and Future, J. A. M. A. **72**:1339 (May 10) 1919.

3. At present its membership consists of the editor and of the editor emeritus of the Journal of the American Medical Association, of a secretary, who is director of the Chemical Laboratory of the American Medical Association, of the director of the Hygienic Laboratory of the United States Public Health Service, of three university professors of pharmacology, of three university professors of medicine, of a university professor of physiologic chemistry, of a chemist in charge of a state agricultural experiment station, of a director of an institute for medical research, of a university professor of bacteriology, of a university professor of pediatrics and of a head of a university department of dermatosyphilology.

4. Heubner, W.: Pathologie der Arzneitherapie, Therap. d. Gegenw. **74**:241 (June) 1933.

a member. Thus, the member who is chosen by the secretary (on authority granted him by the chairman) to act as referee for a certain drug makes an impersonal report to the Council through the secretary. His identity remains unknown, even to the other members of the Council, and his report is one of many presented by means of a weekly bulletin mailed to each member of the Council. Each report is criticized, commented on and later, by ballot, either passed or rejected, a three-fourths vote being required for adoption. The final action that is agreed on is then taken up with the manufacturer by the secretary. Thus, any manufacturer of drugs who has a proprietary product which he wishes to introduce to the medical profession makes application to the secretary of the Council, presenting (*a*) trade packages of his drug, (*b*) twenty sets of descriptive advertising matter, circulars, etc., and (*c*) a description of the article, giving all of the information which is required under the rules. The manufacturer must submit to the following eleven rules which are drawn up for the benefit of the medical profession, of the ethical manufacturer of drugs and, most of all, of the public:

1. No preparation will be accepted for inclusion in the volume issued by the Council of the American Medical Association, "New and Non-official Remedies," unless the composition of the product is published. On countless occasions the secretary of the Council has received word from some firm that it would be glad to reveal to the Council the composition of its new remedy for syphilis, for example, but that it cannot allow its competitors to have access to it. The secretary is obliged to inform the manufacturer that such a practice cannot be entered into by the Council as it is necessary to have the full description of the composition published.

2. "No article will be accepted . . . unless suitable tests for determining its composition are furnished to the Council," i. e., tests for standardization and for purity.

3. An article that has been advertised to the public will not be accepted, although certain disinfectants, germicides, antiseptics and simple petroleum products and combinations with agar, under certain conditions, when they are not advertised as curative agents, may be acceptable even though advertised to the public.

4. No article will be accepted if the label, the package or the circular accompanying the package contains the names of the diseases in the treatment of which the article is said to be indicated. This, again, is required in order to protect the public from self-medication. Moreover, it is not allowable for the enclosures in trade packages to contain also the names of other drugs that the firm is manufacturing, unless these too have been accepted by the Council.

5. In the past, vendors of patent medicines have worked wonders on the public imagination through false claims as to the origin, the source or the method of collecting the raw materials, describing, for example, a "rare root from Africa" to be used in the treatment of eczema. No article will be accepted for which such claims are made.

6. Unwarranted or misleading statements as to the therapeutic value of a remedy are looked on with great suspicion, and no article will be accepted for which such claims are made.

7. To protect the physician and the public, the Council requires that all poisonous or potent substances and their amounts must be plainly declared on the label.

8. One of the greatest difficulties that is encountered in working with manufacturers of drugs is to reach an agreement as to the proper designation for a product. Misleading names or names suggesting diseases, pathologic indications or therapeutic indications are frowned on by the Committee on Nomenclature of the Council. The name, if possible, must be framed to indicate clearly the most potent ingredients. Heubner [4] has recently described the great difficulty under which the physicians in Germany labor because of the practice of using suggestive names, meaningless trade names and a multiplicity of names for identical products. Each manufacturer strives to use his own designation and thereby burdens the poor physician with the task of learning several different names for one product. The secretary of the Council relates that about the time the Council was established, there was received a prescription which had been written in Detroit and which read somewhat as follows:

	Grains
Urotropin	5
Formin	5
Cystogen	5
Hexamethylenetetramine	5
Another brand	5

Mix and divide into 5 capsules.

The physician who had written that prescription was the prey of various advertisers, each of whom had claimed special merit for his product as a urinary antiseptic, when in reality all of the products were identical!

9. The patent number for either the process or the product, or both, must be furnished to the Council, together with the registration number of the trademark.

10. Unscientific and useless articles will not be accepted or retained. The fact that a manufacturer has spent thousands of dollars in circularizing the medical profession does not mean that the Council will accept his product. The preparation must have scientific merit; the

therapeutic and chemical claims for it must be substantiated, and it must have originality or some other important qualities which entitle it to acceptance.

11. A firm which applies for the acceptance of a drug must not be carrying on "policies detrimental to the public and to medicine." Otherwise, such an organization might introduce a satisfactory product and yet, on the side, be advertising with vigor a number of nostrums and "cure-alls," using the Council's acceptance of one product as an endorsement for all of its products or to establish its own prestige. Unless such an organization is willing to "clean house," the Council hesitates to accept its "lone sheep." It is well for the physician to remember that when he is approached by an agent he should ask: Has your product been accepted by the Council? If not, why not? Any honest maker of drugs should have no difficulty in meeting the requirements of the Council, and there is no charge in connection with these investigations.

OTHER ACTIVITIES OF THE COUNCIL

In addition to a supervision of new drugs, the Council carries on other activities in its "propaganda for the rational use of drugs," as Puckner well phrased it. Many of these activities are of importance to the dermatologist and the syphilologist. Only this past year the Council interrogated a large number of specialists in dermatosyphilology from all parts of the country as to their views on the usefulness and on the safety of sulpharsphenamine. Some of the most important of the activities are as follows:

1. The annual volume of the Council's "New and Nonofficial Remedies" describes both proprietary and nonofficial preparations that have been accepted by the Council. In this volume the physician has an opportunity to review what has recently transpired in the various lines of therapeutics. Incidentally, he finds therein descriptions of the remedies that have been investigated by the Council which have been found to have promise of merit and which are honestly advertised. Every dermatologist should own a copy of this book, for it will give him the information that he should have regarding the proprietary preparations that are worthy of his use.

2. Many preparations are not found to be of sufficient value to be included in "New and Nonofficial Remedies." Perhaps they are worthless or their composition was falsely described or unwarranted claims were made concerning them. If a manufacturer has shown evidence of cooperation with the medical profession through having submitted his product to the Council for consideration, such a preparation is rejected only after the manufacturer has been informed of the objection to his product, has been given every opportunity to revise his claims but has

failed to comply with the Council's rules. On the other hand, the Council reserves the right to examine products on its own initiative when they have not been submitted to it but have been advertised to the medical profession. These reports are published in *The Journal of the American Medical Association* and later in the "Reports of the Council on Pharmacy and Chemistry." Some of the more flagrant products, too ridiculous in character and in claims to be worthy of consideration by the Council are reported on by the Bureau of Investigation of the American Medical Association in the book "Propaganda for Reform in Proprietary Medicines." Of course, nostrums that are sold to the public do not come under the purview of the Council.

3. The Council has also assisted and cooperated in preparing an "Epitome of the Pharmacopeia of the United States and National Formulary," in which are given concise statements of the relative value of efficient preparations; and in a booklet entitled "Useful Drugs" is given an up-to-date, concise discussion of the actions, uses and dosages of the more important drugs. This is one of the most widely used medical textbooks of the day.

4. The Council has also assisted in the preparation of "Hospital Practice for Interns," a handbook designed to help establish among interns the habit of prescribing official drugs and of using only selected proprietary preparations. Indirectly, it should be a reminder to the members of hospital staffs of some of their own transgressions in the matter of rational therapeutics.

5. The Board of Trustees of the American Medical Association, through the Council, encourages investigations of problems dealing with the action of drugs. In these days of reduced budgets in universities, it is most helpful when a scientific worker can turn to the Committee on Therapeutic Research of the American Medical Association when he needs supplies, animals, etc., and obtain an appropriation of $250 or less to further his work. In this manner about $5,000 was appropriated in various amounts last year in the university centers of the United States. Often the small sum that was appropriated was the final amount needed to consummate months or years of investigative work. The results of such investigations are published in current periodicals on medical research.

THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION

When any new product is submitted to the Council, two immediate aspects are considered: Are the therapeutic claims for the new product tenable? What are the results of the investigations made in the Chemical Laboratory? The secretary of the Council, Dr. Paul Nicholas Leech,

is also director of the Chemical Laboratory and has associated with him three or four expert chemists, all of them with Ph.D. degrees. The work of the Council frequently would be in vain were it not for the indispensable cooperation of this highly valuable department. For instance, some years ago a so-called arsphenamine preparation, "Syphilidol," was submitted for consideration. The Chemical Laboratory of the American Medical Association found one form of this "French discovery" to be essentially a pill of mercurous iodide, while the ampule form for intravenous medication had all of the characteristics of water and appeared to be devoid of any potent ingredient. Again, some years ago a proprietary product called "Venarsen" was introduced for use in syphilis with the unique statement that it was "a comparatively non-toxic organic arsenic compound, 0.6 gm. representing 247 mg. (3¾ grains) of metallic arsenic in chemical combination." It remained for the Chemical Laboratory to show that the arsenic was sodium cacodylate, which is notoriously inactive against syphilis. There are a host of remedies that never get farther than the Chemical Laboratory. When a remedy is submitted to the Laboratory, a decision is quickly reached if the claims as to the constituents of the remedy are false. Fortunately, in dealings with manufacturers of high type such unpleasant occurrences are rare; and now that the Chemical Laboratory is on guard there is much less tendency than formerly to "foist mixtures" on the profession under the guise of new synthetic compounds.

However, some years ago a reputable manufacturer made application for the approval of a preparation in oil of corrosive mercuric chloride[5] for antisyphilitic injection. The product was supplied in a so-called "collapsule." The product was apparently above reproach, and it remained for the Chemical Laboratory to show that only from one fifth to one tenth of the mercury actually remained in the solvent, most of the heavy metal being adsorbed by the wall of the container. The chagrined manufacturer, who was as much surprised as the Council, immediately removed his product from the market. It is in such functions as this that the Chemical Laboratory acts as a veritable watchdog, protecting the Council, the profession, the public and even the manufacturer. As in this case, the manufacturer may be perfectly honest and desirous of supplying a potent product, yet this does not guarantee that he is producing a drug of high grade.

Often a drug may even be passed by the Chemical Laboratory and still require further clinical investigation before it can be accepted by the Council. Under such circumstances a preliminary report on the product may be made in order to apprize the members of the medical profession of the new drug and of its proposed claims. Once these have been

5. Report of the Chemical Laboratory, J. A. M. A. **93**:1971 (Dec. 21) 1929.

substantiated the product is ready for inclusion in "New and Nonofficial Remedies" as accepted by the Council on Pharmacy and Chemistry of the American Medical Association.

The Council favors no manufacturer or group of manufacturers. It is an absolutely impartial body, working for the simplification of the prescribing done by the physician and specialist. The members (except for the secretary) serve without remuneration. They believe in the rationalization of medicine and in the use of pure, nonsecret drugs, drugs that are essential improvements and not mere duplications and drugs that by actual tests have been shown to have definite therapeutic value. They maintain that drugs for therapeutic use, as distinguished from antiseptics for prophylaxis, must not be advertised to the public directly or indirectly. The Council believes that manufacturers of drugs should have high ideals. It is only by the cooperation of high-minded manufacturers and of an educated medical profession that the public can be best served. Dermatologists and syphilologists would do well to prescribe only such drugs as have been accepted by the Council. Moreover, there probably is no branch of medicine in which polypharmacy and irrational prescribing are so commonly found as in dermatology and syphilology. How true this is of various ointments and lotions that have been used in dermatology! As leaders in dermatosyphilology in America the members of the American Dermatological Association should endorse the work of the Council and stand back of its policies in their clinics and in their work with students.

In closing, the question may well be asked: Are conditions as regards proprietary medicines better in America than in Europe? If they are, it is the duty of the members of this society to exercise watchfulness in order that the standards may be upheld. Members of this society should prescribe scientifically and intelligently, not being misled by imposing names or by exaggerated claims of foreign authors who recommend the wares of various pharmaceutic houses.

Probably no better recommendation can be given for the work of the pioneer members of the Council in their attempt to elevate the standards of medical therapeusis than that such a point has now been reached that no product that has been rejected by the Council may be advertised in the pages of any publication of the American Medical Association; moreover, with a single exception, all state medical journals likewise refuse to advertise products that have been rejected by the Council.

1352 Hanna Building.

ORAL ADMINISTRATION OF POTASSIUM BISMUTH TARTRATE IN TREATMENT OF SYPHILIS

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PHILADELPHIA

The therapeutic possibilities of bismuth preparations by oral administration in the treatment of syphilis have not received the attention they deserve. By this route of administration I have found that water-soluble potassium bismuth tartrate-D. R. L. is less toxic than the mercurial compounds generally employed and much more spirocheticidal.

It is true, however, that oral medication in the treatment of syphilis has gradually fallen into disrepute during the past twenty years because it fosters the under-treatment of the disease, but, as Schamberg and Wright [1] stated in relation to the oral administration of mercury: "The time has not yet arrived when the method of treating syphilis by ingestion can be placed upon the shelf of discarded therapeutic methods and thus be allowed to lapse into total oblivion." They quote Pusey (1922) that:

> under ordinary methods of treatment with mercury by the mouth where treatment was carried out persistently, recurrences, except of mucous patches, were less frequent than they are under present intensive treatment with mercury and arsphenamine. The neurorecurrences which now are so common were then great rarities. The patient's general health was held at a higher point.

While I do not advise or practice the treatment of syphilis by the oral administration of either mercury or bismuth, because I believe that modern methods of intravenous and intramuscular medication are much more effective, I believe that, under certain conditions, there is a definite place for oral medication, and the purpose of this communication is to show the value of ingestion of water-soluble potassium bismuth tartrate in comparison with the mercurial compounds that are commonly employed.

I have used bismuth by oral administration during the past ten years [2] and have found that it is less toxic than mercury and that it is dis-

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From the Research Institute of Cutaneous Medicine and the Department of Medicine, Temple University.

1. Schamberg J. F., and Wright, C. S.: Treatment of Syphilis, New York, D. Appleton and Company, 1932, p. 48.

2. Kolmer, J. A.: Principles and Practice of Chemotherapy with Special Reference to the Treatment of Syphilis, Philadelphia, W. B. Saunders Company, 1926, p. 892.

tinctly curative; furthermore, I have found that water-soluble potassium bismuth tartrate is much less toxic and more spirocheticidal or curative than mercury in experimental syphilis of rabbits, as reported in this communication. Recently Brigham [3] also reported favorably on the oral administration of a concentrated solution of bismuth tartrate or glycerite of bismuth along with injections of arsphenamine in the treatment of syphilis during the past four years, and stated that it has been used to some extent in Europe, either in conjunction with arsphenamine or without it, in the treatment of acquired and congenital syphilis.

INDICATIONS FOR ORAL THERAPY

I have formulated the following indications for oral administration of potassium bismuth tartrate:

1. As a form of follow-up or "consolidation" treatment of acquired or congenital syphilis over a period of from six to eight weeks following courses of injections of arsphenamine or a bismuth preparation, as it affords an excellent means of continuing treatment during rest periods or when the patient is unable to take treatment in any other way for a short period.

2. As a means for starting the treatment of some chronic syphilitic patients, especially when cardiovascular disease is present and it is necessary or advisable to initiate treatment gradually before injections are started in order to avoid exacerbations of lesions or so-called "therapeutic Herxheimer reactions." It is true, however, that this can be accomplished by starting the treatment with four to six weekly intramuscular injections of a bismuth compound, but occasionally this is not possible, either for financial reasons or because the patient is traveling. In these instances I believe that the oral administration of bismuth is indicated in preference to inunctions of mercury.

3. For the "combination" treatment of syphilis when it is desired to give bismuth along with intravenous injections of arsphenamine or neoarsphenamine.

4. Occasionally, for the treatment of those syphilitic patients who find it impossible to take mercury by inunction or injection, either because they are traveling, or because they cannot tolerate injections and for social reasons are unable to employ inunctions of mercury.

TOXICITY OF POTASSIUM BISMUTH TARTRATE

In my experience adults tolerate doses of from 3 to 6 grains (0.19 to 0.4 Gm.) of water-soluble potassium bismuth tartrate three times a day much better than corrosive mercuric chloride, red mercuric iodide or

3. Brigham, R. O.: Bismuth by Oral Administration in the Treatment of Syphilis, Clin. Med. & Surg. **40**:405, 1933.

yellow mercurous iodide in the usual doses. The same has been found true of children, who receive smaller amounts according to body weight. The incidence of gastro-intestinal disturbances, including stomatitis and gingivitis, is much lower; indeed, it is almost absent.

Furthermore, as reported in 1926, I have given rabbits [2] as many as fifty consecutive daily doses of 0.02 Gm. of potassium bismuth tartrate per kilogram by stomach tube without producing any histologic changes in the kidneys, liver or other organs. This dose corresponds to as much as 1.2 Gm. or 20 grains per sixty kilograms of weight (about 130 pounds) and four times per body weight that given to syphilitic patients, which was 0.1 Gm. three times a day after meals (corresponding to 0.3 Gm. or approximately 5 grains a day).

During the past year, when water-soluble potassium bismuth tartrate, which contains 65.5 per cent of bismuth, was given to white rats by stomach tube, the maximum single tolerated dose was higher than 5 Gm. per kilogram of weight, which corresponds to the enormous dose of over 300 Gm. per sixty kilograms of weight. By intramuscular injection the single tolerated dose of water-soluble potassium bismuth tartrate has been about 4 Gm. per kilogram of weight, so that its extremely low toxicity by either route of administration is apparent.

In comparison with mercury it may be stated that in 1915 Schamberg, Raiziss and I [4] found that the maximum single tolerated dose for rats by intramuscular injection was approximately 0.0065 Gm. of mercuric chloride per kilogram of weight; 0.014 Gm. of mercuric succinimide and 0.0085 Gm. of mercuric benzoate, so that for these animals water-soluble potassium bismuth tartrate is approximately 300 or 400 times less toxic than these compounds by this route of administration.

Mr. Herman Brown, of the staff of the Research Institute of Cutaneous Medicine, has found that when the doses are given to rabbits by stomach tube the single maximum tolerated dose of mercuric chloride is about 0.015 Gm. per kilogram of weight, so that the toxicity of water-soluble potassium bismuth tartrate was found to be more than 300 times less than this soluble salt of mercury in single dosage by oral administration.

It is clear, therefore, that water-soluble potassium bismuth tartrate is much less toxic for rats and rabbits when administered orally than mercuric chloride and, as has been long since shown, the same is true when intramuscular injections are given. Furthermore, I am equally sure that the bismuth compound is much less toxic than mercuric chloride, red mercuric iodide and yellow mercurous iodide by this route of administration.

4. Schamberg, J. F.; Kolmer, J. A., and Raiziss, G. W.: A Study of the Comparative Toxicity of the Various Preparations of Mercury, with a Histological Study of Experimental Mercurial Nephritis, J. Cutan. Dis. **33**:819, 1915.

SPIROCHETICIDAL ACTIVITY OF POTASSIUM BISMUTH TARTRATE BY ORAL ADMINISTRATION

It is extremely difficult and almost impossible to appraise accurately the spirocheticidal or curative activity of bismuth by oral administration on the basis of therapeutic effects on the clinical signs and symptoms presented by individual patients. During the past twelve years I have seen external lesions in adults gradually disappear under treatment with water-soluble potassium bismuth tartrate in doses of from 2 to 3 grains (0.13 to 0.19 Gm.) three times a day, but, as stated by Schamberg and Wright,[1] it is now realized that the reversal of a positive Wassermann reaction is a more important criterion of therapeutic progress than the mere disappearance of symptoms, which occurs under diverse and varied treatments.

My clinical experience leads me to believe that the oral administration of potassium bismuth tartrate has aided in producing marked serologic improvement in many instances, and Brigham [3] states that bismuth tartrate by this route of administration is of value in the treatment of patients who show a Wassermann-fast reaction and are intolerant of arsenic, or as an adjunct to arsenical therapy.

However, I believe that the real answer to this important question can be better obtained in the treatment of syphilis of rabbits in which the effects can be judged not only by the rate of disappearance of Spirochaeta pallida and the healing of testicular lesions, but more importantly according to the presence of spirochetes after the transfer of lymph gland tissue to the testicles of fresh animals.

I have never been able to cure completely a syphilitic rabbit, i. e., in the sense of complete sterilization of the lymph glands, by single intravenous injections of mercuric chloride in doses as high as from 0.002 to 0.004 Gm. per kilogram of weight (which just permits the animals to survive). But I have been able sometimes to sterilize rabbits completely with single intravenous injections of water-soluble potassium bismuth tartrate in doses of 0.003 Gm. per kilogram, which was slightly less than the maximum tolerated dose by this route of administration (about 0.004 Gm. per kilogram). In this connection it is interesting to note, therefore, that the single curative dose of this salt of bismuth by intravenous injection is sometimes about one third that of arsphenamine in which the minimal curative dose is from 0.012 to 0.014 Gm. per kilogram. While I have not tried smaller multiple doses it may be stated that Raiziss and Severac [5] have found that four intravenous injections of this bismuth compound in doses of 0.002 Gm. per kilogram were completely curative.

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5. Raiziss, G. W., and Severac, M.: Curative Effect of Bismuth Compounds in Experimental Rabbit Syphilis, Arch. Dermat. & Syph. **12**:661 (Nov.) 1925.

Furthermore, I have not been able to sterilize completely syphilitic rabbits with as many as twenty-four daily doses of mercuric chloride by stomach tube in amounts of 0.001 Gm. per kilogram of weight. But twenty-four daily doses of 0.02 Gm. per kilogram of water-soluble potassium bismuth tartrate almost invariably resulted not only in the disappearance of spirochetes and complete healing of testicular lesions in from four to six weeks, but also in complete sterilization of the inguinal lymphatic glands. When the dose was reduced, however, to 0.01 Gm. per kilogram the lymphatic glands were not sterilized, although the testicular lesions were healed in about six weeks.

Bismarsen-D. R. L. or bismuth arsphenamine sulphonate in twenty-four daily doses of 0.02 Gm. each per kilogram by stomach tube also caused the spirochetes to disappear and the testicular lesions to heal in about three weeks, together with complete sterilization of the lymphatic glands.

In this connection it is interesting to observe that in the same experiments, twenty-four daily doses of 0.01 Gm. of arsphenamine per kilogram caused spirochetes to disappear and testicular lesions to heal in three or four weeks, together with complete sterilization of the lymphatic glands, so that it would appear that arsphenamine by oral administration has about twice as much curative activity as water-soluble potassium bismuth tartrate and bismarsen by this route of administration. Arsphenamine and the two bismuth compounds, however, in twenty-four daily doses of 0.005 Gm. per kilogram did not produce sterilization of the lymph glands, although the testicular lesions healed in about four weeks when arsphenamine was used, but not in eight weeks when the bismuth compounds were used.

There can be no doubt, therefore, of the fact that water-soluble potassium bismuth tartrate and bismarsen have well defined spirocheticidal activity when administered orally and that these effects are much more pronounced than those observed when mercuric chloride is used. Furthermore, these drugs are much less toxic when administered orally.

Accordingly, I believe that both bismuth compounds, but especially the water-soluble potassium bismuth tartrate, are to be preferred to mercury in the oral treatment of syphilis. While bismarsen by this route of administration may be slightly more curative, I have not used it because I fear the possibility of arsenical accidents. Furthermore, in a few cases it appeared to produce mild attacks of diarrhea, whereas potassium bismuth tartrate was borne better and produced no untoward effects.

ADMINISTRATION OF POTASSIUM BISMUTH TARTRATE

For adults, I usually administer water-soluble potassium bismuth tartrate-D. R. L. in capsules of from 2 to 3 grains three times a day

after meals. It can, however, be administered in solution as the compound is almost tasteless. The following formula is very agreeable and stable:

	Gm. or Cc.
Potassium bismuth tartrate-D. R. L.	1
Glycerin	100
Distilled water	100

The dose is 1 teaspoonful (4 cc.) three times a day after meals (a little over 3 grains [0.19 Gm.] per dose). Children receive less according to age and body weight. As the iodides are incompatible they should not be included, but should be administered separately. It has been noted that the compound may gradually become less soluble in water on aging at room temperature. This is probably due to a gradual splitting off of the bismuth from the molecule with the production of insoluble bismuth oxide. Hence, only the freely soluble compound should be employed.

CONCLUSIONS

1. Water-soluble potassium bismuth tartrate is of extremely low toxicity for rats and rabbits by oral administration.

2. The compound in doses of from 3 to 6 grains a day in capsules or solution is very well borne by adults and much better tolerated than the compounds of mercury in the usual doses by this route of administration.

3. The oral administration of water-soluble potassium bismuth tartrate possesses definite therapeutic activity in the treatment of syphilis.

4. The compound is much more spirocheticidal than the soluble salts of mercury by this route of administration in the treatment of syphilis of rabbits. Twenty-four daily doses of 0.02 Gm. per kilogram of weight not only caused acute testicular lesions to heal in from four to six weeks, but also resulted in complete sterilization of the inguinal lymph glands.

5. While the routine treatment of syphilis by ingestion of mercury or bismuth is not advised, it would appear that there are some well defined indications for this type of therapy, as set forth in this communication.

6. When oral medication is required it is believed that water-soluble potassium bismuth tartrate is much better than the usual compounds of mercury, because it is much less toxic and more spirocheticidal.

EXCRETION OF MERCURY AFTER ORAL ADMINISTRATION OF MERCURY WITH CHALK, YELLOW MERCUROUS IODIDE AND CORROSIVE MERCURIC CHLORIDE

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AND
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WITH THE COLLABORATION OF
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CLEVELAND

The oral administration of mercury was introduced early in the history of syphilis, before 1535. The effective absorption of the metal from the alimentary canal is strikingly attested by the occurrence of salivation when the dosage is pushed, even with the water-insoluble preparations, such as metallic mercury, mild mercurous chloride and yellow mercurous iodide. The therapeutic effects are unquestionably equal to those of other methods of mercurialization. They occur as promptly and may be made as energetic, if the dosage is adequate and the administration sufficiently persistent. However, oral administration is so simple that it is generally entrusted to the patient, and is likely to be neglected as soon as unpleasant intestinal irritation, diarrhea or other collateral effects appear; indeed, these complications may render its continuance impossible, even with the best cooperation. Oral administration has, therefore, gone out of vogue, and is now confined chiefly to the employment of mercury with chalk for infants. It is, nevertheless, interesting to compare the absorption of mercury when administered by mouth with that given by other methods. If the comparison is favorable, this method may be worth using in cases in which the others are less desirable.

These considerations, however, are not involved in the present inquiry, which is concerned solely with the course of the urinary excretion of mercury as indicating its absorption and, therefore, its efficacy.

The expenses of this investigation have been met by grants from the Committee on Scientific Research in Syphilis, and from the Therapeutic Research Committee of the Council on Pharmacy and Chemistry of the American Medical Association.

From the Department of Pharmacology of the School of Medicine of Western Reserve University, and the Department of Dermatology and Syphilology of the School of Medicine of Western Reserve University, of the Lakeside Hospital and of the Cleveland City Hospital.

The fecal excretion was not measured, as the feces contained both unabsorbed and reexcreted mercury and, therefore, the determination would have given no information concerning the absorption. The analytic method used was that described by Schreiber, Sollmann and Booth.[1]

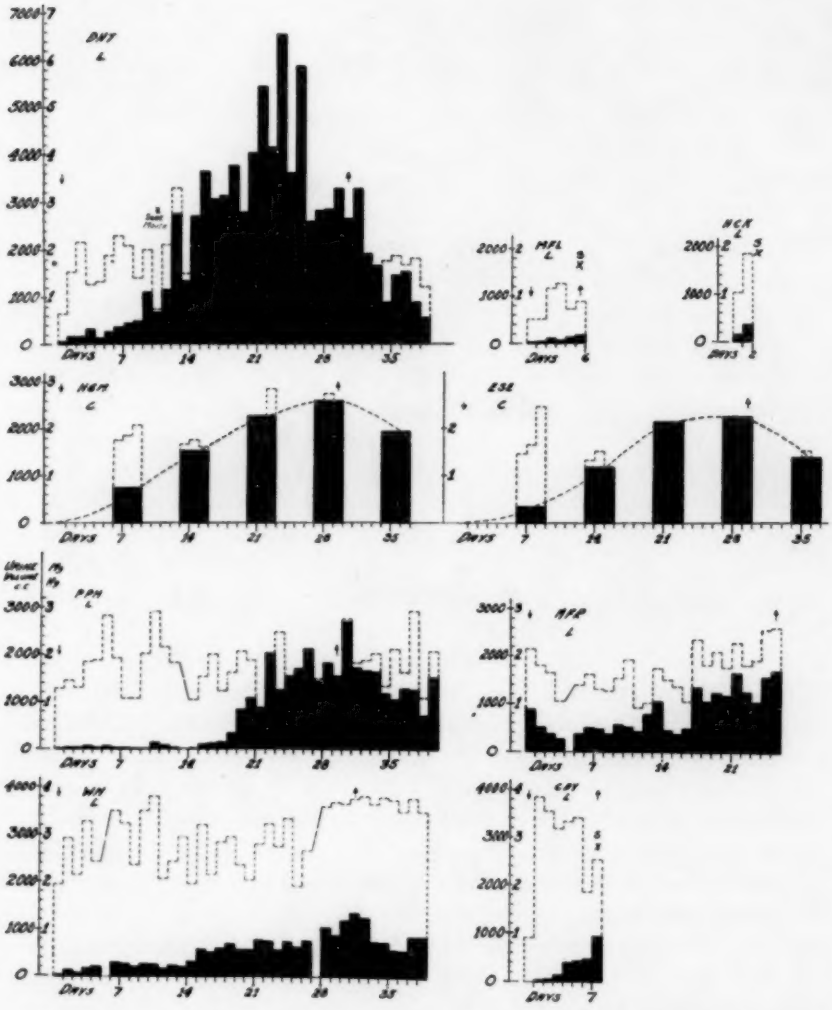

Chart 1.—Daily urinary excretion of mercury by nine patients after the oral administration of 0.5 Gm. of mercury with chalk. In this chart and in charts 2, 3 and 4, the areas of black blocks represent the daily urinary excretion of mercury; the arrow pointing downward indicates the beginning of treatment; the arrow pointing upward, its discontinuance, and *S*, the appearance of salivation. The dotted lines show the volume of urine.

1. Schreiber, N. E.; Sollmann, T., and Booth, H. S.: The Determination of Traces of Mercury, J. Am. Chem. Soc. **50**:1620, 1928.

PREPARATIONS AND DOSES

The investigations included the use of mercury with chalk, U. S. P., of yellow mercurous iodide, U. S. P., and of corrosive mercuric chloride, U. S. P. Analysis of the preparation of mercury with chalk (Mr. E. Davy of the School of Pharmacy) confirmed its content of mercury as 38.5 per cent. One gelatin capsule, containing 0.5 Gm. of mercury with chalk, or 192.5 mg. of mercury, was administered daily to each of nine patients for four weeks, unless the patient salivated earlier. Salivation occurred in three of the patients—in one on the sixth day of treatment, in another on the eighth and in a third on the tenth. Soreness of the

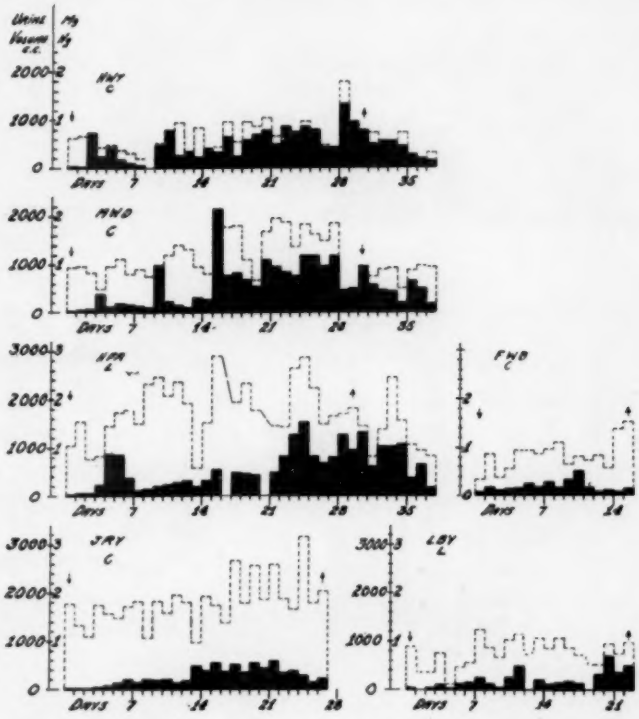

Chart 2.—Daily urinary excretion of mercury by six patients after the daily oral administration of 0.02 Gm. of mercury with chalk.

mouth developed in one patient on the eleventh day, and in another, on the nineteenth day; but it was not severe enough to warrant the discontinuation of treatment. Another series of six patients received daily for about thirty days one capsule containing 0.2 Gm. of mercury with chalk, equivalent to 77 mg. of mercury. Salivation developed in but one of the patients, in this instance four days after the administration of the twenty-seventh and last dose.

Yellow mercurous iodide was given four times daily to each of six patients in the form of ¼ grain (16.1 mg.) tablets, four of these being equivalent to 39.2 mg. of mercury. In five of the patients, salivation developed in from eleven to fourteen days; medication was discontinued on the fifteenth day. All of these patients were women in the same ward at the City Hospital, at the same time,

and their daily urinary excretion of mercury was moderate, being from 0.07 to 0.86 mg., with a median value of 0.23 mg. This suggests the prevalence of a virulent organism in the ward. In the sixth patient, a man at Lakeside Hospital, salivation did not appear, although medication was continued for twenty-five days.

Corrosive mercuric chloride was administered three times a day, to each of three patients in the form of tablets containing 5 mg. of corrosive mercuric chloride, the equivalent of 11.1 mg. of mercury daily.

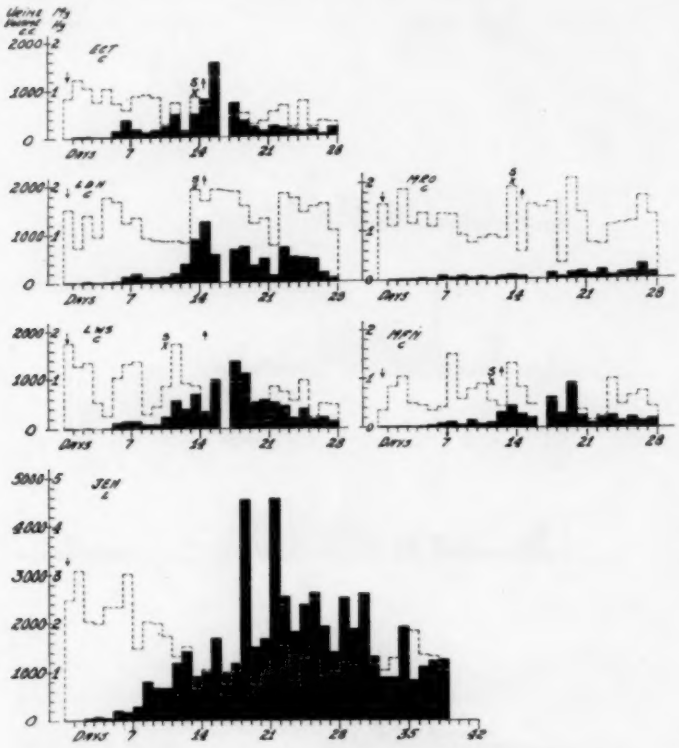

Chart 3.—Daily urinary excretion of mercury by six patients after the oral administration of 0.016 Gm. of yellow mercurous iodide four times a day.

The collection of urine was continued during an after-period of one week in the case of the patients receiving mercury with chalk and corrosive mercuric chloride, and for two weeks in the case of those receiving yellow mercurous iodide.

RESULTS

Results in Individual Patients.—The degree of variability in the results with the different preparations is illustrated in charts 1, 2, 3 and 4. The graphs show the daily volume of urine and the daily excretion of mercury for each patient, and also, when they occurred, the onset of salivation and of diarrhea. For the purpose of further study

and comparison, the data for all patients were averaged, both as medians and as arithmetical means. Since the two methods led to similar results, it was not found necessary to record both averages, and the median was preferred as being better suited to a small series.

Medians of Daily Excretion of Mercury.—These are shown in chart 5 as smoothed curves drawn through the level of excretion at the end of each week. The chart permits the comparison of results of the four oral methods with those of the ordinary routine treatment by inunction, and with those obtained by injections of mercuric salicylate.

The dosage of 0.2 Gm. of mercury with chalk gave a median excretion curve almost identical with that for inunctions of stronger mercurial ointment, U. S. P. The excretion of mercury in the after-period was not as lasting in the case of mercury with chalk; it was, however, considerable. The median excretion level with yellow mercurous iodide was about one-third higher than that with a dosage of 0.2 Gm. of mercury with chalk, a difference which is not significant. The excretion with the dosage of 0.5 Gm. of mercury with chalk was over twice as high as that with the dosage of 0.2 Gm., so that it is evident that the absorption of the mercury in this preparation rather closely parallels the dosage. The absorption of yellow mercurous iodide, however, appears twice as great as that of mercury with chalk, since the same excretion level was obtained with one half of the dosage of mercury. With corrosive mercuric chloride, the excretion was from one-third to one-fourth that obtained with yellow mercurous iodide, which corresponded closely to the difference in the dosage of mercury. The level obtained with corrosive mercuric chloride was so low, even after four weeks of treatment, that the best therapeutic results would not be expected with this preparation. The excretion of mercury with injections of mercuric salicylate varied with the time intervals and probably involved two factors of different therapeutic significance: The primary, high level presumably indicates the inclusion of considerable organically combined mercury, which is probably ineffective; the later, lower level of excretion, the presence of a higher proportion of inorganic, effective mercury. This level is similar to that for the dosage of 0.5 Gm. of mercury with chalk, but since the excreted mercury presumably still included some organic mercury, the method would be correspondingly less effective.

Urinary Excretion of Mercury, Expressed in Milligrams.—In table 1 the number of milligrams of mercury excreted in the urine is recorded as medians and as extremes at the end of successive weeks for each preparation of mercury given orally and for the mercurial inunctions. These data merely support the median curves and do not, therefore, require further discussion. Data on the results obtained by the use of

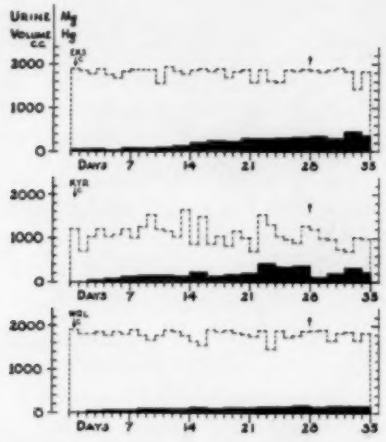

Chart 4.—Daily urinary excretion of mercury by three patients after the daily oral administration of 0.015 Gm. of corrosive mercuric chloride.

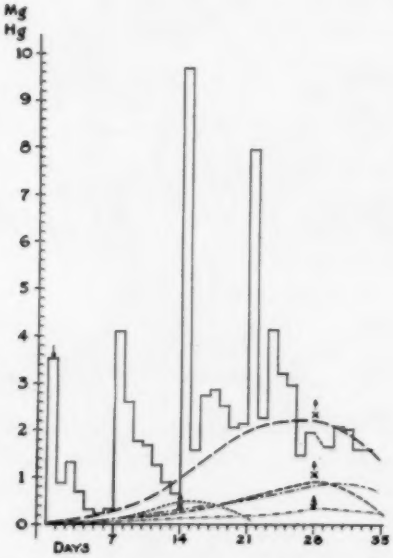

Chart 5.—Medians of daily urinary excretion of mercury for all patients receiving orally mercury with chalk (in dosages of 0.5 Gm. and 0.2 Gm. daily), yellow mercurous iodide and corrosive mercuric chloride, compared with medians of urinary excretion of mercury following injections of mercuric salicylate and inunctions of stronger mercurial ointment. In the chart, the median excretion with injections of mercuric salicylate is indicated by a solid line; that with a dosage of 0.5 Gm. of mercury with chalk, by long dashes; that with inunctions of stronger mercurial ointment, by long and short dashes; that with a dosage of 0.2 Gm. of mercury with chalk, by short dashes; that with corrosive mercuric chloride, by short dashes and dots, and that with yellow mercurous iodide, by dots.

TABLE 1.—*Levels of the Urinary Excretion of Mercury at the Ends of Successive Weeks, Expressed as Medians and as Extremes for All Patients Receiving the Several Mercurials*

	Mercury with Chalk, 0.5 Gm., or 193 Mg. of Mercury, Daily		Mercury with Chalk, 0.2 Gm., or 77 Mg. of Mercury, Daily		Yellow Mercurous Iodide, 0.065 Gm., or 39 Mg. of Mercury, Daily		Corrosive Mercuric Chloride, 0.015 Gm., or 11.1 Mg. of Mercury, Daily		Inunctions of Stronger Mercurial Ointment, 4 Gm. Daily	
	Mg. of Mercury		Mg. of Mercury		Mg. of Mercury		Mg. of Mercury		Mg. of Mercury	
Week	Median	Extremes	Median	Extremes	Median	Extremes	Median	Extremes	Median	Extremes
1	0.37	0.04 to 0.93	0.14	0.07 to 0.35	0.15	0.05 to 0.80	0.07	0.04 to 0.13	0.12	0.02 to 0.40
2	1.12	0.02 to 3.67	0.28	0.08 to 2.13	0.51	0.06 to 1.24	0.14	0.10 to 0.21	0.33	0.15 to 0.70
3	2.09	0.57 to 5.44	0.62	0.33 to 1.07	....	.....	0.19	0.11 to 0.29	0.58	0.31 to 1.77
4	2.21	0.89 to 3.27	0.94	0.45 to 1.90	....	.....	0.33	0.13 to 0.36	0.83	0.38 to 2.00
After-period										
1	1.35	0.83 to 1.89	0.19	0.18 to 0.65	0.14	0.07 to 0.51	0.23	0.14 to 0.37	0.73	0.65 to 1.30
2	....	.....	....	.....	0.14	0.09 to 0.19				

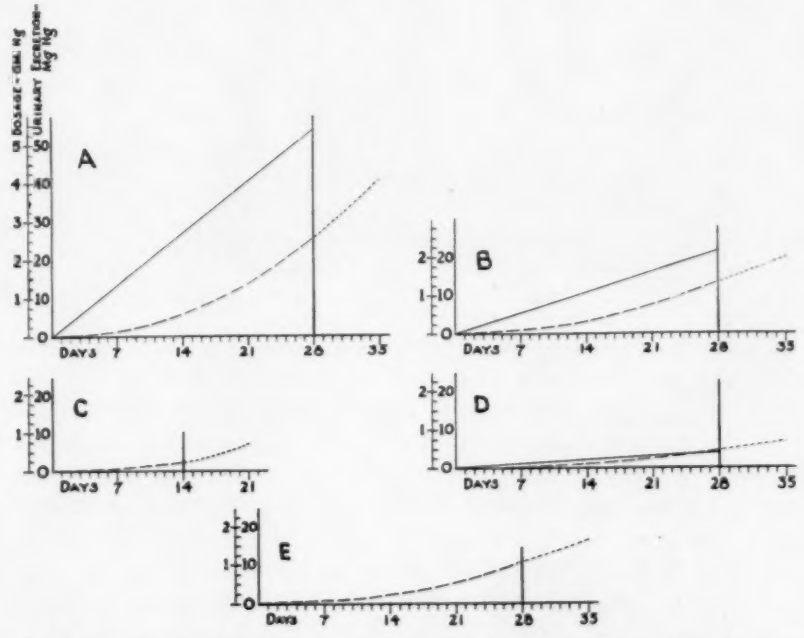

Chart 6.—Relation between the cumulative urinary excretion of mercury and the total amounts of mercury administered in the use of the different preparations. The broken line indicates the cumulative urinary excretion from the beginning of treatment to the end of the period indicated, expressed in milligrams; the solid line, the total amount of mercury administered, expressed in grams. *A* shows the results with 0.5 Gm. of mercury with chalk; *B*, those with 0.2 Gm. of mercury with chalk; *C*, those with yellow mercurous iodide; *D*, those with corrosive mercuric chloride, and *D*, those with simple inunctions of stronger mercurial ointment.

mercurial injections are not included, since these vary with the interval since the last injection and are therefore not comparable.

Medians of Cumulative Urinary Excretion.—The total quantity of urinary mercury excreted is shown in chart 6. The solid straight line in each graph represents the quantity of mercury administered, expressed in grams; the curve below it, the urinary excretion of mercury expressed in milligrams. The numerical data are given in table 2. They lead to the same conclusions as those to be drawn from the daily excretion curves. The total urinary excretion of mercury is nearly the same with the oral administration of 0.2 Gm. of mercury with chalk as

TABLE 2.—*Cumulative Urinary Excretion of Mercury, Expressed as Medians and as Extremes for All Patients Receiving Each of the Several Mercurials*

	Mercury with Chalk, 0.5 Gm., 193 Mg. of Mercury, Daily		Mercury with Chalk, 0.2 Gm., 77 Mg. of Mercury, Daily		Yellow Mercurous Iodide, 0.065 Gm., 39 Mg. of Mercury, Daily		Corrosive Mercuric Chloride, 0.015 Gm., 11.1 Mg. of Mercury, Daily		Inunctions, Stronger Mercurial Ointment, 4 Gm., Daily		Mercury Salicylate, 0.10 Gm.; 60 Mg. of Mercury, Weekly
	Mg. of Mercury		Mg. of Mercury		Mg. of Mercury		Mg. of Mercury		Mg. of Mercury		Mg. of Mercury
Week	Median	Extremes	Median	Extremes	Median	Extremes	Median	Extremes	Median	Extremes	
1	1.12	0.20 to 3.23	0.92	0.49 to 2.37	0.28	0.19 to 0.66	0.27	0.15 to 0.33	0.9	0.1 to 2.0	8.2
2	6.35	0.69 to 7.19	2.73	1.95 to 4.16	2.23	0.56 to 6.60	0.86	0.61 to 1.28	2.0	0.8 to 6.0	21.4
3	13.20	3.37 to 32.79	6.99	4.02 to 9.04	....	.....	2.41	1.28 to 2.51	6.1	3.15 to 26.5	45.2
4	25.60	11.86 to 63.8	12.89	7.03 to 16.1	....	.....	4.57	2.23 to 4.90	10.7	5.2 to 33.0	67.5
After-period											
1	40.41	17.41 to 75.3	19.14	15.07 to 26.1	7.11	1.29 to 10.68	6.37	3.18 to 7.16	16.2	8.5 to 49.1	82.5

with inunctions of stronger mercurial ointment. With yellow mercurous iodide, the excretion begins slowly, being about one third of that with 0.2 Gm. of mercury with chalk at the end of the first week, but nearly equal to the latter at the end of the second week and the third week, although the administration of the mercurous iodide had been discontinued. It appears, therefore, that a condition develops during the administration of yellow mercurous iodide which improves its absorption. That the difference in absorption may have been accidental cannot be denied, but this seems rather improbable. No explanation is offered.

Cumulative Rise of the Level of Excretion and Its Slow Decline in the After-Period.—The median excretion curves shown in chart 5, and indeed each of the individual excretion curves shown in charts 1, 2, 3 and 4, indicate that the daily excretion of mercury increases progressively with the duration of the administration, although the dosage is kept uniform. This implies increasing absorption, which may be

explained by the accumulation of mercury on the absorbing surface, that is, on the velvety "pile" of the intestinal villi. Perhaps the rugae and folds of the intestine also gather and mechanically retain the mercurial powders, thus leading to a progressive accumulation similar to that of mercurial ointment in the pores of the skin during treatment by inunctions. This explanation also accounts for the slow decline in the amount of the excretion of mercury during the after-period. The level of urinary mercury one week after discontinuance of the treatment still amounted to 88 per cent of the level at the end of treatment when inunctions were used, to about 80 per cent with corrosive mercuric

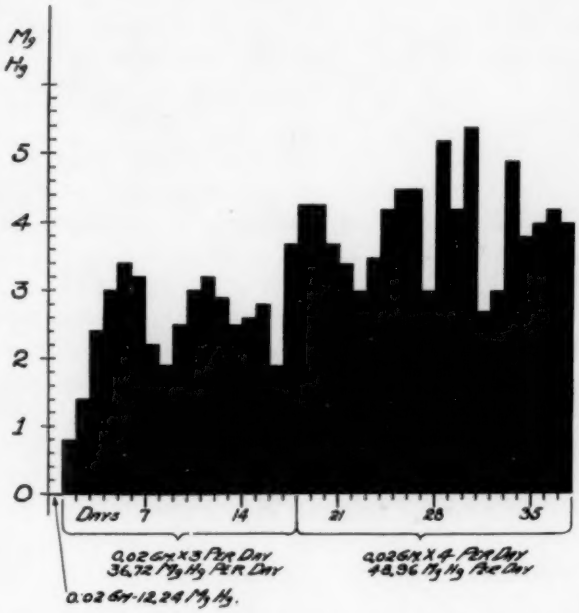

Chart 7.—Excretory levels obtained by Buergi with the oral administration of yellow mercurous iodide.

chloride, to 61 per cent with the 0.5 Gm. dosage of mercury with chalk, to 20 per cent with the 0.2 Gm. dosage and to 27 per cent with yellow mercurous iodide. This, perhaps, furnishes the rationale of the old empirical clinical practice of "intermittent" treatment, for with continuous administration the level of mercury in the body would rise to toxic levels. A better method probably is to decrease the dosage progressively as the intestinal store increases, but this may not be easy to adjust as a routine.

Comparison of Excretion Levels in These and in Recorded Cases.—A number of studies on the excretion of mercury after oral adminis-

tration have been made; they have been reviewed by Lomholt.[2] However, for the most part, they referred to the use of mild mercurous chloride; the number of patients in each study was too limited for the discounting of variability, and the analytic methods employed appeared inadequate. Buergi[3] reported in some detail the case of a patient receiving yellow mercurous iodide. The urinary excretion of mercury by this patient, which has been plotted in chart 7 on the same scale as that of our patients, was considerably higher than the highest in our series; it also rose more abruptly with each dosage and remained almost on a plateau. The differences are so great that we hesitate to attribute them to a peculiarity of the patient. No explanation is offered.

Diuresis.—All the oral medications produced diuresis, which increased with the content of mercury. It is planned in a later paper to compare these details with those obtained with other methods of mercurial medication.

Diarrhea.—This condition was not noted in the case of any of the patients receiving mercurous iodide, and in but two of those receiving mercury with chalk, one of these receiving the dosage of 0.5 Gm., and the other, that of 0.2 Gm. In the patient receiving 0.5 Gm., bloody diarrhea and mild salivation appeared at the end of the first week; in the patient receiving 0.2 Gm., liquid stools were present at the end of the third week. Both these patients showed the highest levels of excretion of mercury in their group during the week, although these levels were considerably lower than those shown by other patients without diarrhea later in the treatment. This fact indicates that diarrhea favors the absorption of mercury by injuring the intestinal epithelium, rather than that diarrhea is the result of an excessively high absorption of mercury; for if the latter were the case, diarrhea would occur whenever the excretion of mercury exceeded this high level.

CONCLUSIONS

The excretion of mercury, and presumably, therefore, its absorption and effective concentration in the blood and the tissues in the case of the oral administration of 0.2 Gm. of mercury with chalk daily and of 0.016 Gm. of yellow mercurous iodide four times per day, were found to be nearly the same in degree and in course as those obtained with treatment by inunctions, when 4 Gm. of stronger mercurial ointment, containing 50 per cent of mercury, is used daily. These preparations may, therefore, be expected to give equivalent therapeutic effects. With

2. Lomholt, S., in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1928, vol. 18, p. 50.

3. Buergi, E.: Grösse und Verlauf der Quecksilberausscheidung durch die Nieren bei verschiedenen üblichen Kuren, Arch. f. Dermat. u. Syph. **79**:3, 1906.

the use of a dosage of 0.5 Gm. of mercury of chalk per day, the excretion was twice as great as the dosage of 0.2 Gm. On the basis of its content of mercury, the absorption of yellow mercurous iodide was about twice as great as that of mercury with chalk. The excretion of mercury with the use of 15 mg. of corrosive mercuric chloride a day was between one-fourth and one-third that with the administration of 65 mg. of yellow mercurous iodide per day; this difference corresponded closely to that in the content of mercury, but the excretion with this dosage of corrosive mercuric chloride was probably below the desirable therapeutic level.

The amount of mercury excreted rose progressively with the continued administration of each of these preparations and declined rather slowly during the after-period, though more promptly than with the employment of inunctions. This cumulative effect is presumably due to the progressive coating with mercury of the intestinal mucosa, especially the surface of the villi, which produces increasingly large depots for absorption.

SULPHUR CONTENT OF HAIR AND OF NAILS IN ABNORMAL STATES

II. NAILS

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AND
HERMAN BROWN, B.S.
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In a previous communication [1] we reported the results of a study of the sulphur content of hair in conditions associated with the loss of hair, the use of solubilized keratin administered orally in the form of hydrolyzed wool to man and to rabbits in order to promote the growth of hair, and a correlation of the sulphur content of hair before and after the administration of hydrolyzed wool. The following considerations suggested this study: Keratin, a simple protein of albuminoid nature, is the chief constituent of hair, indeed of all epidermal tissue—nails, feathers, horns and hoofs. Keratin is peculiar in that it has a high sulphur content, the sulphur being present almost entirely in the form of the amino-acid cystine. It would appear, therefore, that the metabolism of sulphur probably plays an important rôle in the development and growth of these tissues.

We are now reporting the results of studies of the sulphur content of nails in diseases or abnormalities of the nails, the effect of hydrolyzed wool in treatment and the effect of such treatment on the sulphur content.

To our knowledge, the sulphur content of nails in pathologic states has never been studied, nor has hydrolyzed wool been employed in the treatment of diseases of the nails. Some of the older writers administered sulphur orally, either the crude element or a compound containing it, in the treatment of diseases of the nails. Hardaway,[2] for example, recommended its use in dystrophy of the nails.

From the Research Institute of Cutaneous Medicine.

Read at the Fifty-Seventh Annual Meeting of the American Dermatological Association, New York, June 7, 1934.

1. Brown, H., and Klauder, J. V.: Sulphur Content of Hair and of Nails in Abnormal States: Therapeutic Value of Hydrolyzed Wool: I. Hair, Arch. Dermat. & Syph. **27**:584 (April) 1933.

2. Hardaway, W. A.: Note on Some of the Uses of Sulphur, the Sulphides and the Hyposulphites, St. Louis Courier Med. **2**:15, 1879.

The sulphur content of nails was determined according to the method of Stockholm and Koch [3] and is expressed as percentage of sulphur. The margin of error inherent in this determination, we believe, is less than 0.2 per cent. About 0.2 Gm. of nail was required for analysis and was obtained by shaving or cutting.

Sullivan and Hess,[4] as well as other investigators, have shown that sulphur in nails, as in hair, is almost entirely in protein combination as the amino-acid cystine. Cystine contains 26.7 per cent sulphur.

SULPHUR CONTENT OF NAILS

We determined the sulphur content of the following groups of nails: (1) normal nails of healthy persons, (2) pathologic nails and (3) normal nails of patients with various systemic infections or disorders.

Group 1: Normal Nails of Healthy Persons.—The percentage of sulphur of eleven different specimens ranged from 2.9 to 3.6, an average of 3.2. This range was taken as a normal standard.

There are few recorded references to the sulphur content of nails. The sulphur content of human nails and of keratins allied to nail, as given by Mulder,[5] are as follows: nails, 2.8 per cent; cow horn, 3.42 per cent; horse hoof, 4.23 per cent; turtle shell, 2.22 per cent.

Sullivan and Hess regarded about 12 per cent of cystine (3.2 per cent of sulphur) as normal for human nails.

Group 2: Pathologic Nails.—This group comprised forty-four specimens of diseased or abnormal nails from the fingers or toes, or both, of forty-four different patients. In some patients a second analysis for the sulphur content was made after the ingestion of hydrolyzed wool.

In eight patients with psoriasis the percentage of sulphur of the involved nails ranged from 1.2 to 3.5, the average being 2.46. In this series, it was noted that the more pronounced the involvement of the nail, the less the percentage of sulphur.

The percentage of sulphur in spoon-shaped nails of five patients (all Negroes) with pulmonary tuberculosis was abnormally low in each specimen, the average being 2.38. It is to be noted that the nails of these patients were the only ones in group 2 in which the nail proper was normal, the abnormalities consisting of the characteristic clubbed fingers and spoon shape of the nails.

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3. Stockholm, M., and Koch, F. C.: A Quantitative Method for the Determination of Total Sulphur in Biological Material, J. Chem. Soc. **45**:1953, 1923.

4. Sullivan, M. X., and Hess, W. C.: Studies on the Biochemistry of Sulphur: VII. The Cystine Content of Purified Proteins, Pub. Health Rep., supp. 86, 1930, p. 1.

5. Mulder, G. J.: Versuch einer allgemeinen physiologischen Chemie, Braunschweig, F. Vieweg u. Sohn, 1844-1851.

The involved nails of five patients with pyogenic infection—paronychitis, infectious eczema and acrodermatitis perstans of Hallopeau (one patient)—were analyzed. The percentage of sulphur was abnormally low in each specimen, the average being 2.1.

Three patients with eczema with involvement of the nails and two patients with onychogryphosis showed a percentage of sulphur only slightly below normal, the range being from 2.4 to 2.8.

The exfoliating nail of one patient with dermatitis exfoliativa showed a percentage of sulphur of 1.08. This was the lowest figure obtained in the entire series.

The percentage of sulphur of the nails of one patient which were extensively involved with tinea was 2.7.

Eleven patients with abnormal nails of a nondescript character were studied. The abnormality, which involved most or all of the nails unaccompanied by cutaneous eruption, consisted of one or more of the following changes: discoloration, thickening, brittleness and partial detachment. The percentage of sulphur in seven specimens was considerably below normal, the average being 1.8; in the remaining four the percentage of sulphur was normal.

In two patients with congenital ectodermal defect, the sulphur content of the nails was 1.7 per cent and 1.1 per cent, respectively. In these patients, all the toe-nails and finger-nails were thin and friable and were stunted in growth. In addition, the hair was scanty and the teeth showed evidence of defective growth and malnutrition.

The nails of four patients (three children and one adult) with congenital dystrophy of all the nails were examined. In the three children it was not possible to obtain a sufficient amount of nail for analysis at the time they were first seen. Analysis, however, was made after the administration of hydrolyzed wool for three months. Following this therapy the nails definitely improved, but did not become normal. At this time the percentage of sulphur was 3.1, 3.7 and 2.7, respectively. The nails of the patient with a percentage of 2.7 are shown in figures 1 and 2. It is interesting to note that 3.7 per cent of sulphur was the maximum obtained in the entire study. In the remaining patient in this group, the percentage of sulphur before hydrolyzed wool was administered was 2.4. After three months of ingestion of hydrolyzed wool it increased to 3. There was a clinical improvement of the nails, which, however, was not in proportion to the increase in the percentage of sulphur. Another patient, with congenital dystrophy of the nails, showed some improvement after hydrolyzed wool therapy. The sulphur content of the nails of this patient was not determined.

Of the entire series, comprising forty-four specimens of abnormal nails, there were ten cases in which the percentage of sulphur was within normal range. In five of these cases the changes in the nails

were nondescript and were unaccompanied by cutaneous eruption. In the remaining five cases, the changes in the nails were attributed to psoriasis (two patients), psoriasiform seborrheic dermatitis (two patients) and onychogryphosis.

Influence of Hydrolyzed Wool Therapy: Hydrolyzed wool was prepared in the same manner as is recorded in our earlier report,[1] and was

Fig. 1.—Showing congenital dystrophy of the nails in an otherwise normal child. It was not possible to obtain a sufficient amount of involved nails for sulphur determination.

Fig. 2.—Showing definite improvement after the ingestion of hydrolyzed wool for three months. At this time the percentage of sulphur of the nails was 2.7. It was only in the group of patients with congenital dystrophy of the nails that favorable results were obtained from hydrolyzed wool therapy.

administered only to patients with a pathologic process in the nails (group 2). It was administered orally, 2 teaspoonfuls to an adult and 1 teaspoonful to a child, three times a day. The cystine content of hydrolyzed wool was about 1.5 Gm. per 32 cubic centimeters. Its administration was continued for about three months.

A favorable therapeutic effect of hydrolyzed wool was obtained in the group of patients with congenital dystrophy of the nails (figs. 1 and 2). A favorable effect was also obtained in one of the two patients with congenital ectodermal defect. In this patient, hydrolyzed wool therapy apparently increased the percentage of sulphur from 1.7 to 2.9. This increase was accompanied by a definite clinical improvement of the nails. The nails, however, did not become normal. In the other patient with a congenital ectodermal defect, circumstances did not permit hydrolyzed wool therapy.

In other patients with a pathologic process in the nails to whom hydrolyzed wool was prescribed, there was no improvement of the nails or appreciable increase of the percentage of sulphur. In a few cases it was observed that the first analysis of an abnormal nail showed a low percentage of sulphur (1.7 per cent in one patient with erythrodermia), and that on the second analysis of the newly formed normal nail, in the absence of any internal treatment, the percentage of sulphur was normal (3.1 per cent in the aforementioned patient).

In one patient with an extensive involvement of the nails with tinea, hydrolized wool was administered despite a low normal (2.7 per cent) sulphur content of the nails. Our purpose was if possible to increase the sulphur content which might change the p_H to the acid side, and thereby retard the growth of fungi. It has been shown that an acid medium is inimical to the growth of pathogenic fungi. The ingestion of hydrolyzed wool, however, was without clinical effect.

Comment and Conclusion: It would appear from our study that hydrolyzed wool therapy may or may not increase the sulphur content of nails in a pathologic state. If the sulphur content is increased, clinical improvement is not in proportion, so that if a normal sulphur content is attained, it does not follow that the involved nails will be restored to their normal state. This is consistent with our observation that 22.7 per cent of abnormal nails in our series of forty-four specimens contained a normal percentage of sulphur.

Group 3: Normal Nails of Patients with Systemic Infections or Disorders.—Sullivan [6] submitted data to show that sulphur metabolism plays a defensive rôle and that cystine and glutathione are important detoxifying substances. Acting on the hypothesis that a strain on the organism by an intoxication calls for sulphur, Sullivan and Hess [4] examined the cystine content of the finger-nails of patients with arthritis. In their study the cystine content of the nails of twenty-six normal persons varied from 10.28 to 13.02 per cent, with an average of 11.69 per cent. The cystine content of the nails of one hundred and three

6. Sullivan, M. X.: Sulphur and Cystine in Vital Activities, M. Ann. **1**:125, 1932.

patients with various types of arthritis varied from 7.20 to 13.11 per cent, with an average of 9.77 per cent. Ninety-two per cent of the nails of normal persons contained more than 11 per cent of cystine, whereas 83.5 per cent of the nails of patients with arthritis contained less than 11 per cent of cystine. Approximately 60 per cent of the nails of the arthritic patients contained less than 10 per cent of cystine.

In accordance with the foregoing considerations, patients with systemic infections or disorders were included in our study. The nails of five patients with chronic arthritis of the deforming type varied in the percentage of sulphur content from 2.05 to 2.8, with an average of 2.54.

Six patients with primary pernicious anemia showed a percentage of sulphur content of the nails below 3, with the exception of one patient. The blood picture of this patient, although included in the group, was not typical of primary pernicious anemia and did not improve following liver therapy. The average percentage of sulphur of the six patients was 2.45.

Four patients with inoperable carcinoma with pronounced cachexia showed a percentage of sulphur of the nails ranging from 2.34 to 3.06, an average of 2.63.

Eight patients with prolonged fever secondary to endocarditis, erysipelas, pelvic infection or pyonephrosis showed a percentage of sulphur below 3, except for one patient. The average for the group was 2.5

Four patients with pellagra following a prolonged alcoholic debauch showed an average percentage of sulphur of 2.59.

The nails of six patients with dementia praecox were examined. The percentage of sulphur ranged from 2.61 to 2.89, an average of 2.64.

The last group was included in the study in view of the following considerations: From studies of Kirby and Gibbs [7] it was concluded that abnormal distribution of hair and abnormalities in the texture of the hair and nails and in the size and consistency of the testes are more common in dementia praecox than in any other mental disorder. Mott [7] observed indications of a diminution in the oxidation processes in the brain of patients with dementia praecox and an increase of the neutral sulphur content of the whole brain, such as would result from incomplete oxidation of organic sulphur compounds.

PROTECTIVE ACTION OF CYSTINE AGAINST ULTRAVIOLET LIGHT

Ward [8] and others have shown that cystine is the only alipathic amino-acid of the protein complex which has any marked absorption

7. Quoted by Hendersen, D. K., and Gillespie, R. D.: Textbook of Psychiatry, New York, Oxford University Press, 1927, p. 184.

8. Ward, F. W.: The Possible Ring Structure of Cystine, Biochem. J. **17:** 898, 1923.

for solar ultraviolet rays. The capacity of cystine to absorb solar ultraviolet rays is much greater than that of any of the known alipathic compounds. This power is as great for lesser wavelengths as that of phenylalanine, which has the cyclic phenyl group in its molecule.

It appears, therefore, that the protective action of keratin-containing tissue against ultraviolet rays concerns its cystine complexes. This suggests that the cutaneous outgrowths—hair, feathers and scales—have persisted through the evolutionary process owing to their selection as protective agents against the actinic ray.[9]

In view of the foregoing considerations we determined the sulphur (cystine) content of the nails of four patients sensitized to the sun. One was a child with hydroa aestivale, and another had xeroderma pigmentosa. The sulphur (cystine) content of the hair from one of these patients was also examined. The results were negative; the percentage of sulphur was normal.

Comment and Conclusion: Of the thirty-three specimens of nails comprising group 3, the sulphur content was below normal (3 per cent sulphur) in thirty, or 91 per cent. The average sulphur content was 2.54.

The interpretation of Sullivan and Hess of the low sulphur (cystine) content of the nails of the patients with arthritis is not applicable in all of the patients in this group, for example, patients with carcinoma and with dementia praecox. It appears from our studies that the sulphur content of nails of patients with different infections and pathologic states is abnormally low. Interpretation of this cannot be made until more knowledge is available of the rôle that sulphur and its complexes play in human economy and until the nails of a larger series of patients have been studied and patients with other pathologic states included.

Regarding our observation of the low percentage of sulphur of the nails of patients with pellagra and in the cachectic stage of carcinoma, the following considerations may be pertinent: Evidence has been submitted (Sullivan,[6] Smith[10] Sabry[11]) showing that the metabolism of sulphur is abnormal in pellagra, and Sabry has reported favorable results in the treatment of this disease with sodium thiosulphate. Hammett and Reimann[12] and their co-workers have demonstrated that the

9. It is interesting to note in this regard that it is said that the Arabs wear woolen robes as protection against the sun.

10. Smith, J. H.: The Influence of Solar Rays on Metabolism, Arch. Int. Med. **48**:907 (Nov.) 1931.

11. Sabry, I.: Ueber die chemische Natur des "Pellagratoxins" und die Entdeckung der Thiosulfatbehandlung der Pellagra, Dermat. Wchnschr. **96**:265, 1933.

12. Hammett, F. S., and Reimann, S. P.: Cell Proliferation Response to Sulfhydryl in Mammals, J. Exper. Med. **50**:445, 1929; The Influence of Sulfhydryl and Sulfoxide on Gross Regeneration in the Hermit Crab, Protoplasma **13**:261, 1931.

sulphydryl group is stimulative specifically of cell multiplication. It would, therefore, appear that the metabolism of cystine (sulphur) plays an important rôle in malignant diseases. In just what manner our observation of a low percentage of sulphur in the nails of patients with pellagra and with carcinoma can be correlated with these considerations we are not prepared to say. Comparing our results of the percentage of sulphur of nails with our studies [1] of the percentage of sulphur of hair it is interesting to note that the range of the percentage of sulphur of hair below normal was generally less than that of nails. For example, the percentage of sulphur of the hair of patients with pellagra and of patients with loss of hair accompanying fever was normal. It would, therefore, appear that if the determination of the sulphur content of keratin is any criterion of the alteration of sulphur metabolism in systemic disorders, nails rather than hair should be examined.

From our studies it does not appear that determination of the sulphur content of nails is of any value in the study of diseased nails. In view of the foregoing considerations and of our increasing knowledge of the important phases of sulphur metabolism, such determinations may prove to be of practical value in the study of some systemic infections and pathologic states.

SUMMARY

The sulphur content of nails was determined according to the method of Stockholm and Koch and expressed as percentage of sulphur. Sulphur in nails, as in hair, is almost entirely in protein combination as the amino-acid cystine. Cystine contains 26.7 per cent of sulphur.

The percentage of sulphur of normal nails from eleven healthy persons ranged from 2.9 to 3.6, an average of 3.2. This range was taken as a normal standard.

Forty-four specimens of diseased or abnormal nails from forty-four patients were examined. This group presented the following pathologic conditions: eczema, psoriasis, tinea, pyogenic infection, spoon-shaped nails accompanying pulmonary tuberculosis, dermatitis exfoliativa, congenital ectodermal defect, congenital dystrophy of the nails, onychogryphosis and abnormal nails of a nondescript character. The percentage of sulphur was below normal in 77.3 per cent of the nails comprising this group.

Hydrolyzed wool was administered by mouth in the treatment of patients with pathologic nails. Clinical improvement was apparent only in patients with congenital dystrophy of the nails. The ingestion of hydrolyzed wool may or may not increase the sulphur content of pathologic nails. If the sulphur content is increased, clinical improvement is not in proportion, so that if a normal sulphur content is attained it does not follow that the involved nails will be restored to their normal state.

The percentage of sulphur of normal nails of thirty-three patients with systemic infections or disorders was studied. This group comprised patients with chronic arthritis of the deforming type, primary pernicious anemia, cachectic stage of carcinoma, pellagra, prolonged fever and dementia praecox. Of this group the sulphur content was below normal (3 per cent) in 91 per cent.

Considerations of the rôle that sulphur and its complexes play in human economy are discussed in relation to the abnormally low sulphur content of the nails of patients with systemic infections or disorders.

From our studies it would appear that if the determination of the sulphur content of keratin is any criterion of alteration of the sulphur metabolism in systemic disorders, nails rather than hair should be examined.

There is evidence that the protective action of keratin-containing tissues against ultraviolet rays concerns its cystine complexes. This suggested determination of the sulphur content of the nails of persons sensitized to the sun. The percentage of sulphur was found to be normal.

From our studies it does not appear that determination of the sulphur content of the nails is of any value in the study of diseased nails. In view of the considerations discussed and of the increasing knowlege of the important phases of sulphur metabolism, such determination may prove to be of practical value in the study of some systemic infections and pathologic states.

1934 Spruce Street.

2101 Pine Street.

ABSTRACT OF DISCUSSION

Dr. Lloyd W. Ketron, Baltimore: I do not know whether Dr. Klauder has investigated any cases of spoon nails, but if he has, I should like to ask whether he has observed the association of this involvement with microcytic anemia.

Dr. Joseph V. Klauder, Philadelphia: Although we included in our study patients with atrophy and dystrophy of the nails, the opportunity was not presented to determine the sulphur content of the nails of patients with koilonychia or so-called spoon nails, described by Crocker.

CHANGES IN THE SKIN IN CHRONIC ENCEPHALITIS

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This is a report of the results of an examination of forty-eight patients with chronic epidemic encephalitis for certain changes in the skin which Haxthausen[1] described as peculiar to the disease. He described an interesting group of disorders composed of pigmentary anomalies, unusual eczemas, hypertrichosis, seborrhea, prurigo, self-induced lesions and trophic lesions.

The most striking change is that designated as the brown forehead ring.[2] It is a lesion that could hardly be overlooked. It is "very like chloasma uterinum, and in its typical form looks like an arch of hyperpigmentation, 1 cm. broad, situated on the forehead a little in front of the hair-line. In shape it is like a crossbow, with the ends fairly straight at the temples, while the center is deeply arched with the convexity above." There may be variations of this, usually on the face. In one case, on the chest of a boy of 9 years, the hyperpigmentation appeared in unilateral pseudosegmental locations. Eczema was seen sometimes in diffuse lichenified areas, again in profusely weeping patches and occasionally as densely distributed, scratched pruriginous papules. All of them were morphologically typical, but they were unusual because of their sharply defined outlines, often running in straight lines, and in their unilateral distribution, which did not correspond to areas of innervation of individual nerves or to definite segments of the spinal cord. Self-induced lesions were observed in five of some fifty patients with chronic encephalitis, all of whom presented pronounced mental changes.

The pigmentary anomalies in encephalitis, according to Haxthausen, are so frequent and characteristic as to preclude the element of coincidence. The eczemas that were observed had such unusual clinical traits as to suggest a definite causal relationship; and the frequency of self-induced lesions, he felt, indicates decidedly that there is a connection. Seborrhea, which is usually pronounced, is generally considered to be a characteristic feature of the disease.

Other changes that were mentioned are trophic lesions,[3] an unusual case of hypertrichosis of the crura in a youth of 16 years, a case of scaly

1. Haxthausen: Acta dermat.-venereol. **13**:408 (Nov.) 1932.
2. Anderson and Wernoe: Ugesk. f. læger **92**:817, 1930. Haxthausen.[1]
3. Lammersmann: Dermat. Ztschr. **47**:58, 1926.

pruritic dermatitis on a forearm, which was hypesthetic, and a case of unusual development of blisters. These, however, were presented with due reservation as to a possible causal relationship.

Special examinations were made of forty-eight patients for these changes, and of all the abnormalities mentioned, only seborrhea of the face was observed in my group, and in but a single instance to the extent that the face "appeared smeared with salve." In four cases the skin of the face was unusually oily, but in general the seborrhea, when present, was not abnormal for the class of people examined, almost all of whom were of Slavic origin.

The patients were from the outpatient neurologic department of the Michael Reese Hospital. There were thirty-five men and thirteen

Haxthausen's patient, showing the brown forehead ring of chronic epidemic encephalitis.

women, ranging in age from 65 to 14 years. One patient had presented symptoms of encephalitis for sixteen years; another, a man of 54, had been sick for one year. The average duration of illness was six years, and on an average the patients had been observed at the clinic for about two and a half years.

The diagnosis in fourteen cases was chronic epidemic encephalitis with parkinsonism; the remainder showed no symptoms of parkinsonism. There was one case of chronic encephalitis with hemiparesis, and in two cases there were oculogyric crises. In addition there were two cases of grand mal epilepsy, one of syringomyelia and one of multiple sclerosis. With one exception all the patients were of normal mentality; none

required institutional care, which may be the reason that there were no cases of self-induced lesions.

Numerous dermatologic disorders were noted in the group. Seborrhea of the face and scalp was seen frequently, but not unduly. All the patients presented one or more moles, either fleshy or pigmented. There were several with acne vulgaris, acne rosacea, hyperhidrosis of the palms and soles, folliculitis and furunculosis, one case of tinea versicolor and several of dermatophytosis of the feet. All were diseases usually seen in routine dispensary practice, but in none of the cases were there the striking changes that have been reported in European literature.

7 West Madison Street.

PSEUDO-ECTOTHRIX

A FILAMENTOUS CHANGE NOTED ON THE HAIR ROOT IN CERTAIN INFLAMMATIONS OF THE SCALP

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In the routine examination of hairs taken from certain inflammatory lesions of the scalp one occasionally finds a root which exhibits unusual changes. The lower portion of the root is degenerated and distorted while the upper portion seems to be wrapped around with threadlike filaments. These filaments often overlap and are twisted in various ways, but they always tend to wind around a core, the hair root. These abnormal hairs can be found quite consistently in patients with neurodermatitis affecting the suboccipital area of the scalp. At first glance one may think that an unusual trichophyton ectothrix is present, but after repeated failures in attempted cultivation one is forced to conclude that the appearance is due not to a parasite but to a dystrophic change in the tissues themselves. Writers of standard textbooks on growth and disease of the hair, including Jackson and McMurtry,[1] Hubbard,[2] Hildebrandt,[3] Cottle,[4] Friedenthal,[5] Grellier,[6] Godfrey,[7] Leonard,[8] Beigel[9]

Read at the Fifty-Seventh Annual Meeting of the American Dermatological Association, Inc., New York, June 8, 1934.

1. Jackson, G. T., and McMurtry, C. W.: A Treatise on Diseases of the Hair, Philadelphia, Lea & Febiger, 1912.

2. Hubbard: A Treatise on Diseases of the Hair and Scalp, Philadelphia, Lea & Febiger, 1928.

3. Hildebrandt, H.: Ueber abnorme Haarbildung beim menschen, Königsberg, E. J. Dalkowsky, 1878.

4. Cottle: Hair in Health and Disease, London, Churchill, 1877.

5. Friedenthal, H.: Haar Parasiten und Haarbau als Hinweise auf Blutsverwandtschaft, Arb. a. d. Geb. d. exper. Physiol., 1911, pt. 2, p. 83.

6. Grellier: Dissertation sur les cheveux, Thèse de Paris, no. 22, 1806.

7. Godfrey: Diseases of the Hair, Philadelphia, Lindsay, 1872.

8. Leonard, C. Henri: The Hair, Its Growth, Care, Diseases and Treatment, London, Baillière, Tindall & Cox, 1880.

9. Beigel, H.: The Human Hair: Its Structure, Growth, Diseases and Their Treatment, London, H. Renshaw, 1869.

and O'Donovan,[10] have given no description of this condition. No reference to it is to be found in Cockayne's [11] work on hereditary abnormalities of the skin and its appendages, and there is no mention of it in Danforth's [12] articles on the growth of hair.

In Sabouraud's [13] "Les teignes" there is a photomicrograph showing apparently the identical condition described in this report, but no reference to the condition is made in the accompanying legend or in the text. That illustration is designed to show hyphae of Microsporon lanosum growing in the structure of the hair root. Together with that appearance, though slightly out of focus, there are circular filaments winding around the root of the hair. In the textbook of Burton-Opitz [14] there is an illustration of a plexus of nerve fibers surrounding a hair and its follicle, but one is made to realize that the nerve fibers are surrounding the dermal sheath and cannot be extracted with the hair. Jackson and McMurtry's [15] book exhibits an illustration in color, after Darier, of a bed-hair. The artist has depicted transverse markings from the hair-bulb to a point above the opening of the sebaceous gland. While the illustration is somewhat indefinite in outline, it suggests that the painter saw something of this nature across the axis of the hair root and copied it—something unexplained in the text, perhaps the squamas of the hair or perhaps encircling fibers not clearly defined.

Marcaglou [16] reported a case of trichoclasia of Jackson and Sabouraud. In this condition trichorrhexis-like changes occur in the hair shaft. While Sabouraud believed that the underlying condition was a neurodermatitis, the scalp showed little or no inflammatory reaction. In the description of this condition no mention is made of the appearance of the hair root, so we assume it to be without definite abnormality. Ronchese [17] reported a case of twisted hair (pili torti). This is a congenital fragility with ribbon-like twisting that grossly resembles monilethrix. The hair roots show twisting and malformation but no

10. O'Donovan, W. J.: The Hair: Its Care, Diseases and Treatment, London, J. & A. Churchill, 1930.

11. Cockayne, E. A.: Inherited Abnormalities of the Skin and Its Appendages, New York, Oxford University Press, 1880.

12. Danforth, C. H.: Studies on Hair, Arch. Dermat. & Syph. **11**:494 (April); 637 (May); 804 (June) 1925; **12**:76 (July); 195 (Aug.); 380 (Sept.) and 528 (Oct.) 1925.

13. Sabouraud, R.: Les teignes, Paris, Masson & Cie, 1910.

14. Burton-Opitz: A Text Book of Physiology, Philadelphia, W. B. Saunders Company, 1920, p. 894.

15. Jackson and McMurtry,[1] p. 92.

16. Marcaglou, A. E.: Trichloclasia of Jackson-Sabouraud, Arch. Dermat. & Syph. **17**:512 (April) 1928.

17. Ronchese, F.: Twisted Hairs (Pili Torti), Arch. Dermat. & Syph. **26**:98 (July) 1932.

filamentous wrapping. A case of trichophytosis of the back of the scalp in an adult was reported by Marcozzi.[18] The clinical description of the lesion was similar to that found in our cases. Marcozzi, however, was able to demonstrate an ectothrix which on culture proved to be Trichophyton glabrum. Massia and Rousset [19] reported about nineteen cases of trichophytosis and four cases of microsporosis of the scalp in adults. No abnormality of the hair roots was mentioned, save the presence of the fungus. Milian and Photinus [20] reported a case of lichenification of the skin of the neck. From this condition they were able to recover Trichophyton granulosum on culture.

Monilethrix [21] is a congenital disease exhibiting alternating fusiform swellings and atrophic constriction of the hair shafts affected. The hair roots are apparently normal except for variations in diameter. In alopecia areata [22] certain broken-off hairs show atrophy of the root portion and a knob-shaped hair-bulb. These are termed "exclamation point" hairs.[21] Trichorrhexis nodosa is a disease of the hair shaft with formation of nodes and brushlike fragmentation. The hair root shows no involvement. No fibers twining about the roots are seen in any of these conditions.

It is desirable to review briefly certain pertinent facts about hair growth.[23] The root of the papillary hair is firmly attached to the hair papilla by its bulb. It is surrounded by the internal epithelial sheath. Extraction of this hair produces pain, and a portion of the internal epithelial sheath comes away on the hair root. As the hair matures it separates from the papilla and moves outward in the follicle, still receiving nourishment from the plexus of vessels around the lower part of the follicle. This hair is termed a "bed-hair." The external epithelial sheath remains attached to the hair papilla and serves as an anlage for the development of a new hair. The growth of this young hair gradually forces the bed-hair outward beyond the level of the sebaceous gland opening to a point at which nutrition stops. The hair root then degenerates and the hair is shed.

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18. Marcozzi: Trichophytosis of Back of Neck in Women with Bobbed Hair, Dermosifilograf. **6**:694 (Dec.) 1931.

19. Massia, A. G., and Rousset, J.: Microsporosis and Trichophytosis of the Scalp in Adults, Ann. de dermat. et syph. **10**:828 (Aug.) 1929.

20. Milian, G., and Photinus, T.: Case of Lichenification of Neck by Trichophyton, Bull. Soc. franç. de dermat. et syph. **35**:212 (March) 1928.

21. Danforth, C. H.: Studies on Hair, Arch. Dermat. & Syph. **12**:216 (Aug.) 1925.

22. Jackson and McMurtry,[1] p. 113.

23. Jackson and McMurtry,[1] p. 41.

The shed hair [24] shows a brushy root or one resembling an inverted fir tree. It has no epithelial sheath attached.

The papillary hair [24] has a long pliable, soft root end which is bulb-shaped and hollowed out for the reception of the papilla. The medulla is continuous throughout. A portion of the epithelial sheath is found attached.

With the exception of one boy, all the patients in whom the change in the hair under consideration has been readily and consistently found have been females. During the past nine years we have seen this condition in from forty to fifty patients, the cases of eight of whom are included in this report. The female patients usually, but not always, had bobbed hair. The clinical appearance is that of a definitely marginated, slightly elevated erythematosquamous patch in the suboccipital region of the scalp. Usually it is situated above the hair line, but it may extend to the glabrous skin of the neck. When this occurs the patch is sharply marginated, slightly thickened, and somewhat lichenoid. Itching is always present and sometimes intense. For its relief the patient seeks treatment.

REPORT OF CASES

One patient was a boy, aged 5 years, with a patch in the suboccipital region. The follicles were somewhat prominent; slight redness and partial loss of hair were present. A clinical diagnosis of tinea tonsurans was made, but the hairs showed thread-wrapped roots, and no fungi were found.

The following reports of cases refer to patients in the dispensary for cutaneous diseases of the Jefferson Medical College Hospital. In all instances the microscopic study of hairs revealed the thread-wrapped appearance of the roots previously described.

CASE 1.—C. H., a white, native-born housewife, aged 50, was admitted on Jan. 15, 1934. A sharply defined erythematosquamous patch of several months' duration was present at the back of the scalp. A similar lesion had existed on the dorsum of the right hand for two months. Both regions itched intensely. Otherwise the results of physical examination were unimportant. Cultures made on Sabouraud's and other mediums were negative for fungi.

CASE 2.—A. M., a school girl, aged 12, native born but of Italian parentage, was admitted on Dec. 27, 1933. A cutaneous lesion was present on the back of the scalp and neck. There was an ill defined erythematosquamous plaque of six months' duration. There was marked itching. The results of the physical examination were without bearing on the condition of the skin. Cultures made on Sabouraud's and other mediums were negative for fungi.

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24. Jackson and McMurtry,[1] p. 43.

Case 3.—E. C., a white, native-born housewife, aged 21, was admitted on March 28, 1934. An erythematosquamous patch at the back of the scalp had existed for several months. The patient had been originally admitted to the neurologic clinic with paralysis on the left side of the face, from which condition she had recovered when referred to the dispensary for cutaneous diseases. Intense itching of the back of the scalp was complained of. The physical examination gave negative results in other respects. No fungi appeared on culture mediums.

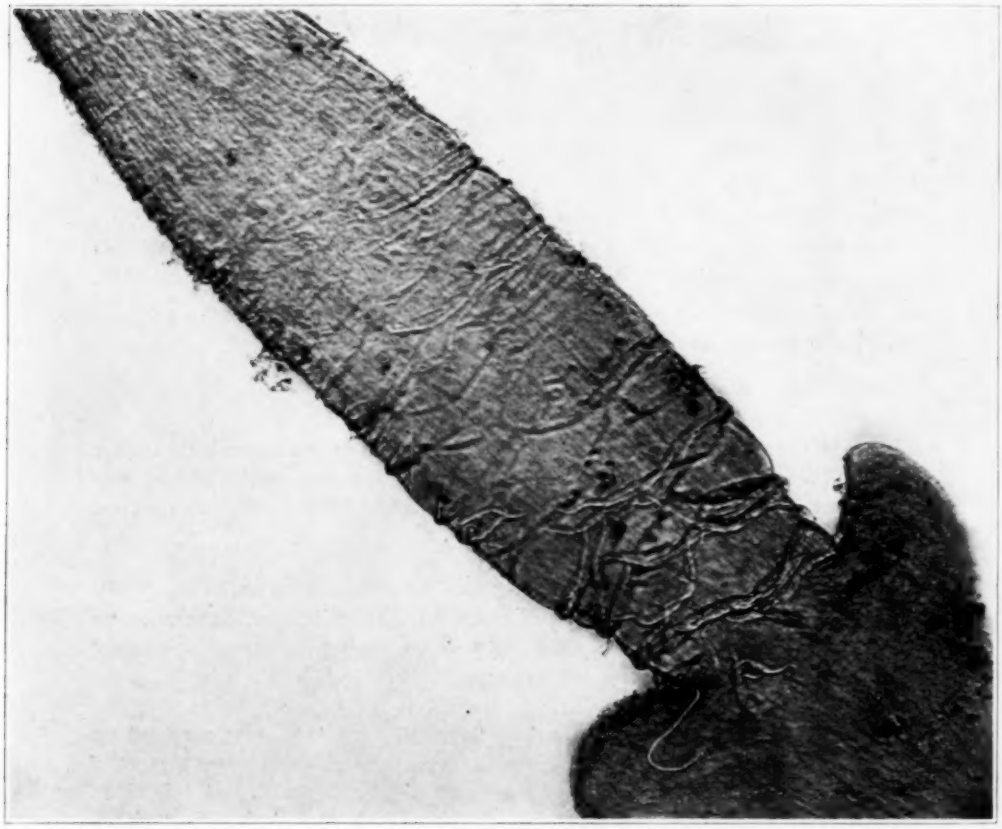

Fig. 1 (case 2).—Photomicrograph of the upper portion of a hair root, showing filaments in relief. The filaments have the appearance of the muntins in a leaded window.

Case 4.—M. M., a white widow, aged 36, native born but of Italian parentage, was admitted on Feb. 9, 1932. An erythematosquamous patch covered with a greasy scale, measuring 4 by 5 cm., was present just above the posterior hair line. It had existed for four years. Roentgen treatment had caused improvement, but a relapse always ensued when the treatment was discontinued. There was marked itching. The physical examination threw no light on the cutaneous condition. Suitable culture mediums were inoculated with hairs, but the results were negative.

CASE 5.—G. B., a boy, aged 5 years, native born but of Greek parentage, was admitted on Jan. 22, 1934. A maculosquamous, sharply defined patch was present at the back of the scalp. There were very slight erythema, partial loss of hair and some prominent hair follicles. The scales were flaky and dry. The appearance clinically resembled that of tinea tonsurans. Examination of the hairs showed no spores but did show the thread-wrapped condition of the roots.

CASE 6.—F. S., a white, native-born housewife, aged 40, was admitted on Dec. 22, 1933. At the back of the scalp was an erythematosquamous patch of

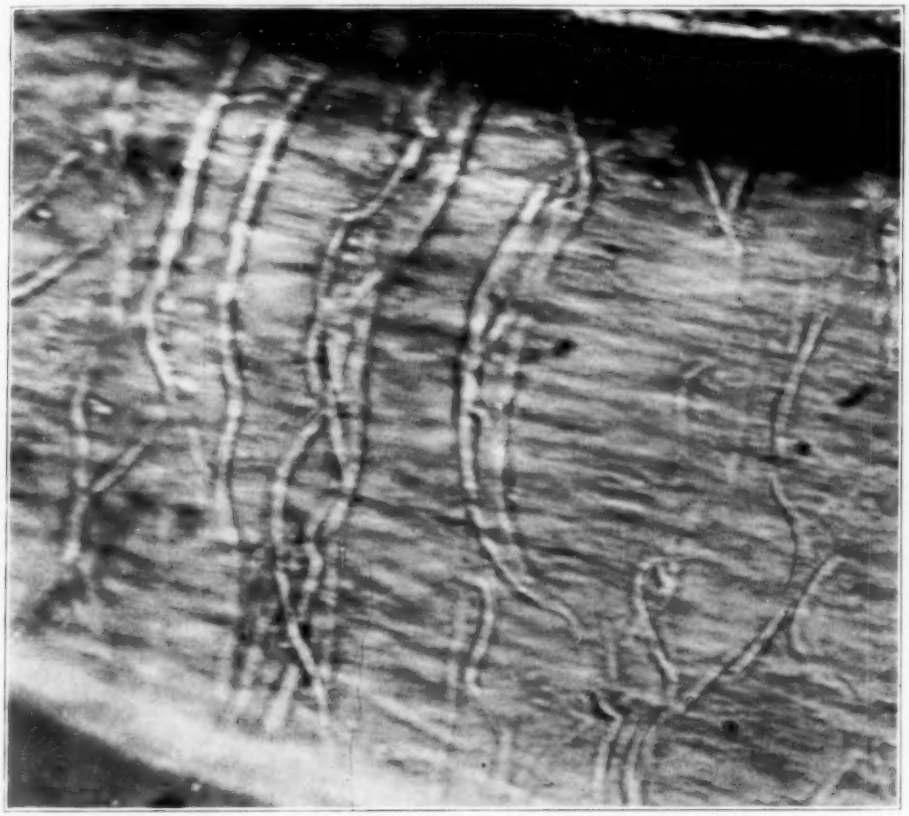

Fig. 2 (case 4).—Photomicrograph (× about 750) of the upper portion of a hair root and the filaments.

indefinite margin and long duration. Marked itching had been present for one week. Otherwise the results of physical examination were irrelevant. No growth of fungi appeared on culture mediums.

CASE 7.—P. C., a white, unmarried, native-born woman, aged 22, was admitted on Feb. 24, 1934. The usual appearance of an erythematosquamous patch at the back of the scalp had been intermittent for four years. Itching was moderate. The results of physical examination were without bearing on the cutaneous condition.

The following report concerns a private patient of Dr. Edward F. Corson, whose notes were used:

CASE 8.—C. H., a white schoolgirl, aged 17, had been under observation since Jan. 6, 1932. Her past dermatologic history was confined to an indefinite eruption on the face and neck, probably eczema, when she was a baby. The present outbreak began a year before admission as an itchy, inflammatory outbreak on the little finger of the right hand and later spread to the flexures of the extremities, especially the antecubital fossae, the neck and the face. During the summer of 1931 the condition cleared entirely, but it recurred in the autumn of that year.

At the time of her first visit the outbreak consisted of erythematosquamous lesions in poorly defined patches in the aforementioned situations. In places, especially in the nuchal region, the hairy scalp was involved. Itching was intense at times. Patch tests with fur and dress-goods gave negative results.

Hairs from the back of the neck showed the characteristic appearance described in this article.

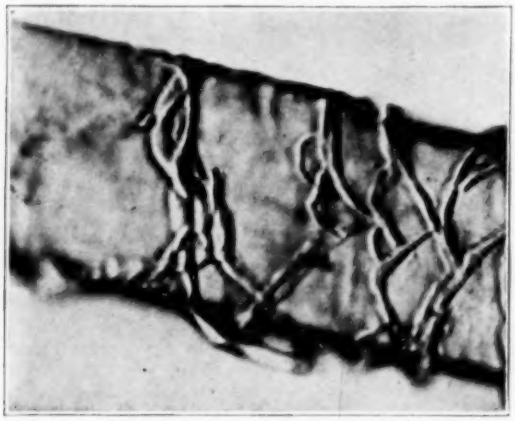

Fig. 3 (case 8).—Photomicrograph of a hair root after five minutes' immersion in a 5 per cent solution of potassium hydroxide (× about 250). The degenerated portion of the root is seen at the lower left corner and the thread-wrapped portion in the central area. The shaft commences at the upper right corner. The swollen upper part of the root bulges between the points where it is restrained by the encircling filaments. The latter may be seen in profile where they round the edges of the hair.

COMMENT

It is to be noted that the affected hairs come out painlessly with slight traction. Not all the hairs in an inflamed patch show the condition. When the hairs are extracted one can readily see the distorted root of the affected hair with a hand lens.

When mounted in 10 per cent sodium hydroxide or in xylene and balsam the lower portion of the hair root shows degeneration and distortion. This portion is sharply demarcated from the more normal, upper portion. At the line of demarcation, sometimes apparently

arising from the degenerated portion, one sees the encircling filaments that extend up the hair root. They are cylindric or flattened, tapelike bands and appear to interlace. Farther upward these filaments become less marked, and they cease at the beginning of the hair shaft. After the hairs have remained for several hours in the sodium hydroxide solution the filaments tend to fragment and disappear. Immersion of the hairs in a solution of sodium hydroxide or potassium sulphide tends to produce a rapid swelling of the root of the hair but does not immediately affect the shaft. This produces the effect of a wooden potato masher with the degenerated portion of the root attached as a viscid mass. The filaments possess some tensile strength because they resist the swelling of the hair root for several hours before fragmentation occurs. Bulging of the root between the restraining strands is noticeable. When mounted in xylene and balsam or in glycerin the filaments are readily visible as interlacing refractile cylinders.

The hairs show, as a rule, no medullary cavity in the root; occasionally such a cavity can be seen in the shaft. The cortex is not abnormal in appearance. The cuticle is not seen in the root but can be seen in the shaft.

Attempts to stain these hairs were made, using both dried hairs and hairs fixed in a dilute solution of formaldehyde. With hematoxylin and trinitrophenol the degenerated portion of the hair root stained brown; the remainder of the hair root and the filaments stained light yellow. With hematoxylin and eosin the degenerated portion of the root stained reddish black; the cortex did not stain, and the filaments stained very faint pink. With hematoxylin and methylene blue the degenerated portion of the root stained bluish black; the cortex was unstained, and the filaments stained faint blue Hematoxylin and Weigert's stain colored the degenerated portion of the root red; the cortex did not stain, and the filaments were colored faint pink. With Mallory's stain the degenerated portion of the root stained black, and the cortex and filaments did not stain.

With Unna's polychrome methylene blue-orcein method, the degenerated portion of the root stained red; the cortex did not stain, and the filaments stained faint red. With acid orcein no staining occurred; with Million's reagent and nitric acid the hairs and filaments remained yellow.

Cultures on Sabouraud's maltose agar and dextrose agar have been repeatedly negative for fungi. Hanging drop cultures in beer wort have shown no growth over a period of three weeks. Dr. Fred Weidman cultured some of the hairs; the results were negative.

A piece of skin was removed for histologic study. The epidermis showed some hyperkeratosis and marked acanthosis. The corium showed a scattered leukocytic infiltration. The hair follicles seen in the

sections seemed to be involved in the acanthotic process, as if the reaction had extended into and involved the epithelial sheaths. The histopathologic picture was characteristic of a neurodermatitis.

SUMMARY

1. Certain hairs the roots of which exhibit threadlike wrappings can be found consistently in patients with neurodermatitis of the suboccipital region.

2. In glycerin preparations these filaments seem to follow the contour of the intercellular spaces of the cuticle or of the internal epithelial sheath.

3. When treated with a solution of sodium hydroxide or potassium sulphide the swelling of the hair root tightens the filaments so that they may be mistaken for hyphae.

4. The composition of the threadlike bands has not been determined.

5. It is believed that the filaments are in the nature of an intercellular exudate thrown out by the internal epithelial sheath as a result of the inflammatory process of the neurodermatitis.

6. If the filaments are characteristic of neurodermatitis they constitute an aid in differential diagnosis.

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ABSTRACT OF DISCUSSION

DR. CHARLES M. WILLIAMS, New York: The members are much indebted to Dr. Knowles for this presentation. I can vouch for the presence of such structures, for I have observed them for many years. When I first began to search hairs for mycelia these structures were evident. I always supposed that they were artefacts and disregarded them. I do not know what they are. As I have examined the top of the scalp rather than the occipital region I should say that the structures can be found almost anywhere. I think that the next stage in this investigation, after some hairs showing this deformity are found, should be to search the remaining portions of the scalp and to see whether the structures are really a sign of disease.

DR. JAMES H. MITCHELL, Chicago: I have had the same experience as Dr. Williams. I have observed these formations for years and have wondered what they were, but I have never done anything about it. The hairs I have examined have been in young children within the ringworm age. The structures are found so consistently that I have made it a point to tell the students that they are not fungi but either part of the hair or artefacts.

Regarding the eruption on the occipital and suboccipital regions, I think that it is well to investigate the possibility that it is produced by such irritants as black hairpins, nickel hair-curlers and scalp lotions.

Dr. Fred D. Weidman, Philadelphia: I saw one specimen at the laboratory, and when I first saw it I did not hesitate to state that the substance was not fungus. These filaments occur just at the point of separation and make one think entirely of the hair follicle. They occur just at the point of separation in the shaft, where a physiologic separation takes place whereby the hair shaft is loosened and can be shed. At first I believed that at the place at which they occur the probable shell of the hair shaft had loosened and been shed and the appearance presented was that of an end-on view. It is difficult to ascertain that point when the third dimension is involved. When all sorts of dimensions are involved it is difficult to say whether a structure is spherical or whether only an end-on view is presented. I suggested that histologic sections of these hairs be cut. That is difficult to do, for the hairs fall away from the material, and I suggest that Dr. Knowles follow the technic I used when investigating black tinea: Embed the hair in a slice of normal liver and then make sections of the entire piece of liver.

At first it appears that this material is degenerative, that it represents the more resistant remaining fragments of the margins of the scales and that the filamentous structure that extends out a great distance on the shaft of the hair may represent a fusing of the substances.

It is also necessary to determine whether this condition occurs only in cases of neurodermite or pseudopelade.

Dr. Knowles' presentation has called attention to the degenerative changes that occur in connection with the papillae of the hair shaft.

Dr. Frank C. Knowles, Philadelphia: I have a few slides which I should like to show. (Presentation of lantern slides.)

As I mentioned in the title, the dystrophy of the hair is probably found in other inflammatory conditions of the skin, but as I have found it so frequently in neurodermatitis it appears to be characteristic of that type of eruption.

CALCIFYING EPITHELIOMA

RICHARD L. SUTTON, M.D.
IN COLLABORATION WITH
RICHARD L. SUTTON JR., M.D.
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"Calcifying epithelioma" does not occur in the index of practically all English texts. An example of this entity recently came to our attention and is herewith described.

REPORT OF A CASE

Miss R. F., aged 30, white, a school teacher, consulted Dr. Richard L. Sutton Sr., on April 15, 1933. She complained of a small tumor on the radial aspect of the dorsum of the right forearm. This lesion was a hard, round nodule the size of a hazelnut (about 1 cm. in diameter) projecting as a red, flattened hemisphere about 3 mm. above the level of the surface of the arm. The skin overlying it was thin and shining, and of pale cherry color with a few dilated capillaries running over the protuberance. The margin curved gently into the surrounding normal tissue, and the redness faded abruptly at the edge. On palpation (and the finger-tips tell as much as the eyes in tumors of the skin of all sorts) the spherical shape was evident. Attachment to the superjacent skin was firm, but the lump moved over the deep fascia with the superficial fat. The texture was uniform, not lobulated, solid almost to woody hardness, elastic, but definitely not cystic. The regional lymphatic glands were normal. The patient said that the tumor had begun, not longer than five months previously, as a small, reddish pimple, that it had enlarged slowly but without regression, that it gave no sensation, but was tender on pressure, that it had never discharged or oozed, and that it had never received treatment or been traumatized. Her appearance was that of abundant health and she said she was aware of no other ailment.

On careful consideration of all of these features, there appeared to be no evident category into which this tumor clearly fitted. The location, rate of development, solidity and redness were inconsistent with our concept of a sebaceous or dermoid cyst. The hardness was not that of osteoma, Salser's case (scalp) requiring four or five years to attain the size of a small coin.[1] It was not an osseous plaque, as was the lesion in Becker's or Coleman's case;[1] nor was it like the case of Taylor and Mackenna,[1] in which there were a number of bony deposits in the skin of a 15 month old child. There was no calcification as seen in scleroderma (Pollitzer[1]) or secondary to a wound (Pusey[1]). We have seen squamous cell carcinomas that were hard and dome-shaped, but not spherical nodules, and they had a minute depression at the center from which (it was seen in sections) the epithelial downgrowths took their point of departure. Molluscum

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Read at the Fifty-Seventh Annual Meeting of the American Dermatological Association, New York, June 8, 1934.

1. Quoted by O. S. Ormsby: Practical Treatise on Diseases of the Skin, ed. 3, Philadelphia, Lea & Febiger, 1927, p. 619.

contagiosum with lesions of such size has been recorded (MacLeod [2]), but the resemblance could have been only very distant. A general examination precluded the plausibility of its being a metastasis, though this remained a possibility. There was no readily discoverable bony or abdominal tumor. As we were reasonably certain that the lesion was neoplastic and of local extent, it was removed with a margin under local procaine hydrochloride anesthesia by means of the pointed electric cautery. The wound healed by granulation uneventfully in the usual time of one month.

Fig. 1.—Calcifying epithelioma of the skin. Nodular lesion from forearm of a woman, aged 30. Note convoluted degenerate and basophilic bands of epithelium, from 0.15 to 0.2 mm. wide, from 20 to 40 cells thick, in dense fibrous stroma that is continuous with the 0.3 mm. thick capsule. The tumor is fixed to the superjacent derma, but free beneath in the subcutaneous fat. The epidermis is widely separated from the epithelium of the tumor; × 12.

Divided with a sharp knife, the tumor was felt to be gritty, and it was seen in the gross to be round and sharply defined by compressed connective tissue. The

2. MacLeod, J. M. H.: Diseases of the Skin, New York, Paul B. Hoeber, Inc., 1921, p. 1113.

superficial border was in continuity with the thinned corium above. The cut surface was waxy white and curiously granular. Unlike a sebaceous cyst, the content of which is disorganized and squeezes out like shaving cream, the mass of fatty material was not homogeneous nor simply present as a filling. Whitish spicules with rounded edges and of hard consistency projected from the slightly bulging surface; their orientation was irregular, except for a tendency at the periphery to be concentric with the border. They were curved and folded, measuring about 0.25 mm. in diameter, and resembling bits of broken middle-ear bones in a whitish matrix.

This appearance is distinctive and characteristic. Dr. Robert Koritschoner found a description in Kaufmann's *Lehrbuch*[3] of *verkalkten Epitheliomen,* in which the picture of the gross specimen and the description thereof defined the tumor in our case.

Fig. 2.—Calcifying epithelioma of the skin. Epithelial band, showing hyalinization. Note the stroma, which is dense and cellular, and syncytial in juxtaposition to the epithelium; × 150.

Fixed in a solution of formaldehyde, the tissue was embedded in paraffin and sections were stained with hematoxylin and eosin. Sections perpendicularly bisecting it were prepared by Col. W. F. Harvey of the Royal College of Physicians Laboratory in Edinburgh. Colonel Harvey's[4] opinion was that the tissue probably represented a subcutaneously ruptured sebaceous cyst, with continued growth of the epithelial lining and foreign-body reaction to the fatty material of degenerated epithelial origin. He found no connection with the epidermis. We observed that

3. Kaufmann, Eduard: Lehrbuch der speziellen pathologischen Anatomie, ed. 6, Berlin, Georg Reimer, 1911, vol. 2, p. 1321.

4. Harvey, W. F.: Report on specimen no. 163 (personal).

the mass was composed of curved and folded bands of stratified epithelium supported in a stroma of dense connective tissue with remarkable formation of syncytial fibrous cells. The epithelial bands were of a fairly regular thickness of from 0.15 to 0.2 mm., some from 25 to 40 cells deep. In some parts the epithelium took a deep basic stain; elsewhere entire bands were pale pink. In the palest and most homogeneous bits of material of epithelial origin, the cell outlines were completely invisible and the substance looked hyaline; but in most of the pink portions, nuclear and cell boundaries were at least shadowy, the nuclear spaces still being oval, not compressed, but clear and pale, with a faint pink nucleolus. Faint intercellular bridges were visible in places. Where the epithelial cells stained deepest blue, the nuclear membrane and intranuclear granules, including usually one or two nucleoli, were very dark. Some epithelial nuclei were solid black; these were surrounded by very little cytoplasm. The cytoplasm in general was scant, faintly granularly fibrillar and blue-pink. In zones of transition from basophil to acidophil epithelial material, the nuclei condensed and became dark and small, the cytoplasm coloring ranged through lavender tints, becoming more transparent, and the pyknotic nuclei lost their basophil property. The basophil bands took far more stain than the normal epidermis. This feature and the fact that the deep blue parts caused artefacts when cut were evidence of increased density due to calcium deposits. (Reports of other tumors, identical in structure except for heavier deposit, are to be found in the references cited in the footnotes.) The epithelial material was sharply separated from the fibrotic stroma. Blue-staining and presumably living bands contracted away from the stroma, leaving a clear margin, but the pink hyaline substance did not contract, and where it joined the stroma there were flattened giant cells of foreign-body type. Bits of pink material were in places encased by large multinuclear mesodermal elements, presenting somewhat the appearance of catgut in sections of surgical wounds. No cholesterol clefts were seen. The stroma was continuous with the centrifugally displaced fibrous tissue forming the boundary of the tumor, which was from 0.3 to 0.4 mm. thick. In this were seen displaced and compressed sudoriferous glands at their usual depth beneath the epidermis. The stroma was composed of fibrous tissue and fibroblasts, sparse groups of round cells and many slightly shrunken giant cells in all stages of development. Few polymorphonuclear leukocytes were found, but deteriorated giant cells and round cells with pyknotic nuclei were seen about some decadent granular masses of epithelial origin, which at first glance resembled polymorphonuclear leukocytes. Analogically, this fibrous background represented the continuous phase and the epithelium the dispersed phase. Consequently, this tumor could not fall apart when cut in the gross, as does a sebaceous cyst. The minute anatomy corresponded with and explained the gross characteristics: the hardness of the tumor due to its microscopically evident solidity and the shredded-coconut appearance of the cut surface due to the convoluted and folded bands of firm epithelial substance. No cysts were present.

COMMENT

Neoplasms of this species were described in considerable detail recently by Ch'in Kuang-yu,[5] who gave a full bibliography, and it is with free reference to his paper that we present a generalized concept

5. Ch'in Kuang-yu: Calcified Epithelioma of the Skin, Am. J. Path. **9**:407 (July) 1933.

of calcifying epithelioma. We have not found a specific description in any standard English work.

Ch'in Kuang-yu reported 10 cases seen in fifteen years among 22,000 surgical specimens examined in the department of pathology of Peiping Union Medical College. In addition, he collected 116 cases from the literature and remarked:

> I have been able to find (in the English literature) only one case diagnosed as calcified epithelioma of the skin, reported by Nicholson [6] in 1917, and two similar cases described as calcified adenoma of the skin, one reported by Eve and the other by Hutchinson. On the other hand, these tumors are not infrequently reported and discussed by German and French authors.

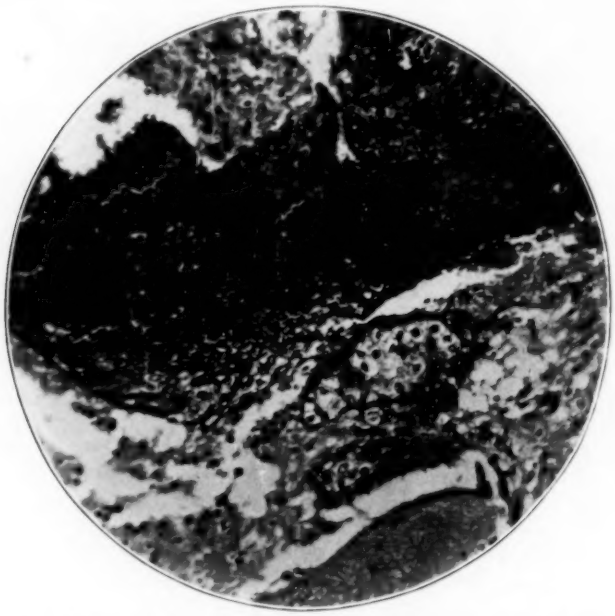

Fig. 3.—Calcifying epithelioma of the skin. Basophilic mass of dense epithelial tissue presumably undergoing calcification. Note the typical sebaceous group in the center; × 150.

Ch'in Kuang-yu's 10 cases were equally divided between the sexes, and the ages of the patients ranged from 13 to 29 years. There were 7 tumors of the head (5 of the face, 2 of the neck) and 3 of the arm. They were hard or firm, from 0.5 to 9.5 cm. in diameter, sharply encapsulated, subcutaneously situated, freely movable over the deeper tissues, but usually adherent to the overlying intact skin. Their cut surfaces

6. Nicholson, G. W.: The Formation of Bone in a Calcified Epithelioma of the Skin, with Some Remarks on Metaplasia, J. Path. & Bact. **21**:287 (July) 1917.

showed a characteristic sandy or gritty appearance. His review of the literature is so complete, brief, clear and readily available that we feel that it is unnecessary to quote the authors of the 116 case reports he has collected. In these cases, he found 57 tumors located on the head and neck, 12 of which were in the orbital region; 19 on the upper extremity, 11 of which were from the arm; 4 on the lower extremity; and 15 on the trunk, of which 8 came from the back. Of the instances in which sex was reported, 23 cases occurred in females and 12 in males. The ages were: 14 below 20 years, 8 between 21 and 50 years, and 9 over 51 years. Half of the patients below 20 years were below 10 years, and the youngest patient was Firket's, an infant aged 2 months.

The tumors are "slow-growing, rounded, stone-hard cartilaginous or soft, freely movable, sharply encapsulated, at times cystic, and usually have a gritty cut surface." They are ordinarily from 1 to 2 cm. in diameter, but they may attain the size of a baby's head. They rarely ulcerate or rupture through the overlying skin; they rarely recur when removed, and are of local growth only. The histogenesis is from epithelium which has a marked capacity for hornification. The cells additionally necrose and imbibe lime salts and "in the necrotic epithelial masses one finds cholesterol crystals, fatty acids, and calcium deposits." It was our impression that in our case the cells taking the deepest blue stain still looked alive, but the pink and horny ones were apparently deceased. The stroma of connective tissue extends as a network with epithelial masses lying in its meshes. "Foreign-body giant cells are usually found about the calcified masses and cholesterin crystals." In our case, we saw no crystal clefts, but giant cells were profuse about the hyalinized, acidophil, decadent epithelial lumps. Cystic spaces do occur, particularly in the larger tumors. The fluid is clear and colorless, derived both from epithelium and from the stroma (according to Kaufmann), and the cysts are multiple, if present.

The source of the epithelium in these tumors is solely a matter of conjecture. Every one who has described cases has presented his guess and quoted the conjectures of his predecessors. Ch'in Kuang-yu cites these faithfully. The epithelium was not continuous with the epidermis in our case or in those recorded by Ch'in Kuang-yu.[5] We will accept Kaufmann's[3] opinion that these tumors come from deeply misplaced anlagen of sebaceous gland epithelium. In figure 3 can be seen a group of fat cells from the midst of the tumor from our case, but it would be foolish to presume too much from their presence. While they are clearly sebaceous cells, they are equally clearly in the minority.

These tumors are distantly related to atheroma, from which they differ in having a less limited and more neoplastic capacity for growth; while atheromas, in contrast, have a definite basal membrane separating a continuous epithelial lining from the fibrous capsule, have an unor-

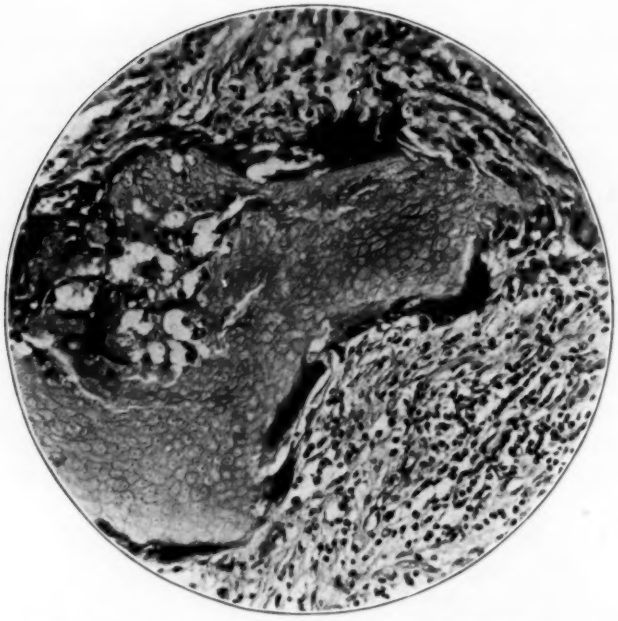

Fig. 4.—Calcifying epithelioma of the skin, showing keratinized epithelium, acidophilic and with shadowy cell and nuclear outlines, embedded in foreign-body giant cells, which are deeply basophilic and perhaps undergoing calcification; × 150.

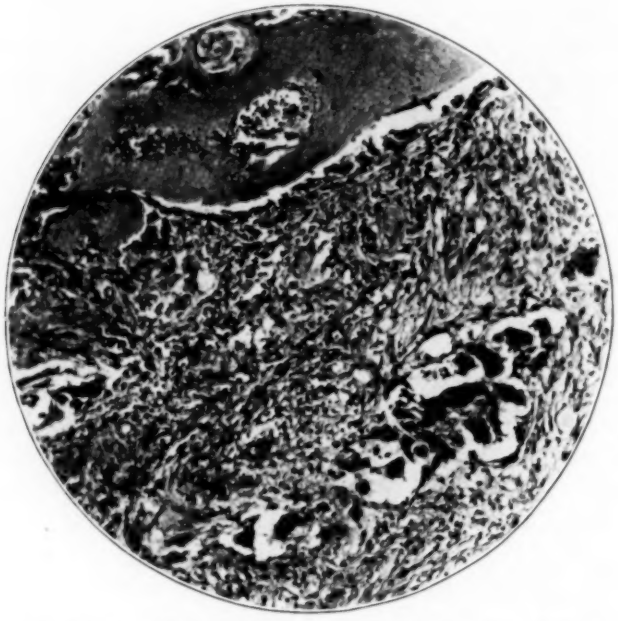

Fig. 5.—Calcifying epithelioma of the skin. Stroma showing giant cells and dense fibrous tissue, the cells of which have an angular appearance due to shrinkage. Phagocytosis of decadent epithelial material; × 150.

ganized content and are not notably surrounded by giant cells. Sebaceous cysts are also simpler structures and are associated with comedones, comprising minute cysts with a comedo-like orifice, or such cysts that have separated from the epidermis. They have a continuous epithelial periphery that is not convoluted; but papillomatous growth in bands may occur into their cavity, and we have seen some specimens with plexiform, nucleated contents. Dermoid cysts likewise have a definite epithelial periphery, often skinlike in the possession of accessory structures. More complicated dermoids, containing hair and teeth, are obviously greatly different. Calcifying epithelioma on the other hand bears some resem-

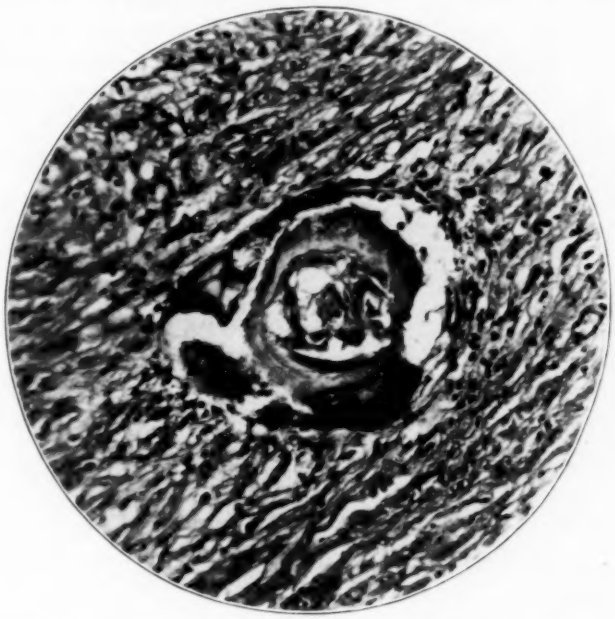

Fig. 6.—Calcifying epithelioma of the skin. Calcifying hyaline, degenrated epithelium surrounded by foreign-body giant cells, which are also deeply basophilic; × 250.

blance to basal cell epithelioma in its capacity for growth, its behavior as a benign neoplasm and its structure, which is not that of a simple cyst, but that of an epithelial proliferation embedded in a particular type of fibrous stroma. That the product of its epithelial growth tends to calcify is in accordance with observations of cutaneous calculi, described in detail by Unna [7] as of sebaceous gland origin, and the observation of many others that necrotic fatty or hyaline material does often calcify.

7. Unna, Paul G.: Histopathology of the Diseases of the Skin, translated by Norman Walker, Edinburgh, William F. Clay, 1896; Calcification in Skin Cancers, p. 677; Cutaneous Calculi, p. 862.

In this connection, Unna described 2 cases of "calcified carcinoma of the scalp," and said, "It is at least clear from the cases of Wilckens, von Noorden, and several of Malherbe and his pupils [cases reviewed by Ch'in Kuang-yu] that there is an anatomically pretty well defined tumor of the skin, which shows slow growth, bony hardness, and a preference for the head (especially the region of the eyebrows), and contains in a firm membrane partly or completely calcified epithelial masses, of uncertain origin, separated by calcified or ossified septa of connective tissue." It is remarkable that in these tumors, calcification of apparently living epithelial cells occurs. The blue stain, presumptive of calcification, was seen among the cells with clearest nuclei and with best defined minute structure, cells which lie in groups that, unlike the obviously nonliving hyaline masses, shrink away from the stroma on fixation. Psammoma-like bodies are on rare occasions seen in basal cell carcinomas, particularly in those that grow in strands that are compressed by dense fibrous tissue, and in these too the calcification is of epithelial cells, not of stroma.[7]

We conclude with a repetition of Ch'in Kuang-yu's words: "It is clear that the calcified epitheliomas of the skin form a group of tumors that are clinically and pathologically characteristic. The benign behavior of the majority of them and their invariable tendency to undergo necrosis and calcification are the distinguishing features." These cases deserve recognition as being representative of a specific species of tumor, and while rare, they have clearcut features that make clinical diagnosis fully possible.

SUMMARY

1. A case of calcifying epithelioma is described.
2. From the literature, a general picture of this species of tumor is drawn.
3. The distinguishing characteristics are:
   (*a*) The spherical shape
   (*b*) The size generally of from 1 to 3 cm. in diameter
   (c) The location under the derma, fixed to the skin above and freely movable over the deeper tissues
   (*d*) The hardness, which may be almost bony
   (*e*) The occurrence (in order of frequency) on the head, arms, forearms and back, then elsewhere
   (*f*) The occurrence in persons of any age, but often in youth or in early adult life
   (*g*) The spicular, gritty surface of the gross section
   (*h*) The component bands of epithelium, which hornify, calcify and become engulfed by giant cells

(*i*) The encapsulation and continuity with the capsule of a dense fibrous stroma remarkable for the giant cells in its structure

(*j*) Its behavior as a benign neoplasm of local growth

(*k*) Its amenability to local excision with permanent cure

4. Such tumors deserve recognition as a particular species of epithelioma and may readily be recognized on clinical examination.

ABSTRACT OF DISCUSSION

Dr. Fred D. Weidman, Philadelphia: This clearcut presentation with the histologic report seems to bear out the conclusion that the lesion was originally a sebaceous cyst. The pathology is clear. It is well known that neutral fats easily change into soaps and that soaps are particularly favorable nidi for the deposit of calcareous material. That is, once this lipoidal material has been laid down it can thereafter be infiltrated by the calcifying substances. In a paper read before this association Dr. Shaffer reported a case in which the material was laid down in the epidermis as well as in the corium, and apparently not in any other place in the body. Here, too, fat was a precursor. The location, too, of the lesions so frequently on the face, as reported in the literature, is in keeping with the well known tendency of sebaceous accumulations toward such locations.

CUTANEOUS TORULOSIS

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In an extensive monograph published in 1916, Stoddard and Cutler [1] analyzed the previously published cases of torula infection and added two cases of their own. Their studies not only embraced a clinical review but contained extensive experimental and cultural work tending to establish the entity of a systemic disease fatal after long chronicity and with a marked predilection for the central nervous system. The close similarity of the infecting organism to those causing blastomycosis and coccidioidal granuloma led them to the conclusion that these conditions were often confused in the literature.

This work, as well as later publications by Freeman and Weidman,[2] Urbach and Zach,[3] Versé [4] and Rappaport and Kaplan [5] and more lately by Weidman [6] and others, has resulted in a sharp differentiation, clinically, culturally and pathologically, of torula infection from both blastomycosis and coccidioidal granuloma.

In their final analysis, Stoddard and Cutler [1] stated that in the classification of diseases produced by yeast and yeastlike organisms one is dealing with four distinct diseases: first, coccidioidal granuloma, definite in clinical appearance and caused by an endosporulating organism, an ascomycete; second, a true systemic yeast infection, of which but two cases were described in the literature and which is characterized by systemic involvement and cutaneous lesions; third, torula infection caused by an organism distinguished from yeast by budding, no formation of mycelia, no endosporulation and the production of symptoms

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Read at the Fifty-Seventh Annual Meeting of the American Dermatological Association, New York, June 7, 1934.

1. Stoddard, J. L., and Cutler, E. C.: Torula Infection in Man, Monograph 6, New York, Rockefeller Institute for Medical Research, 1916.

2. Freeman, W., and Weidman, F. D.: Cystic Blastomycosis of the Cerebral Gray Matter Caused by Torula Histolytica, Stoddard and Cutler, Arch. Neurol. & Psychiat. **9**:589 (May) 1923.

3. Urbach, E., and Zach, F.: Generalized Torulosis, Arch. f. Dermat. u. Syph. **162**:401, 1930.

4. Versé, M.: Ueber einen Fall von allgemeiner Blastomykose beim Menschen, Verhandl. d. deutsch. path. Gesellsch. **17**:275, 1914.

5. Rappaport, B. Z., and Kaplan, B.: Generalized Torula Mycosis, Arch. Path. **1**:720 (May) 1926.

6. Weidman, F. D.: Cutaneous Torulosis, South. M. J. **26**:851 (Oct.) 1933.

chiefly referable to involvement of the brain, the pathologic picture being that of a characteristic low grade inflammatory reaction with caseation not unlike that in tuberculosis and a lysis of the cerebral tissue, and, fourth, blastomycosis, or as they suggested, better named oidiomycosis, caused by an organism budding in tissue and forming mycelia in culture and presenting the characteristic clinical picture of epithelial and deeper lying abscesses.

One of the distinguishing features of torula infection according to Stoddard and Cutler is the entire absence of lesions of the skin as part of the general infection.

Ten years after the excellent studies of these authors a case of torula infection with cutaneous manifestations was reported by Rappaport and Kaplan.[5] The patient had a typical case of torulosis resulting in death from meningitis in which late in the course of the disease an acneform pustule appeared on the forehead. From this lesion, which remained unchanged, a pure culture of Torula histolytica was grown.

The microscopic study of this lesion after death showed an enormous infiltration in the corium consisting of round cells, fibroblasts, a large amount of granular débris and large numbers of organisms. This is the first established case of cutaneous torulosis.

Two years before the publication of Stoddard and Cutler's work, however, Versé[4] described a case before the German Pathological Society which was diagnosed as systemic blastomycosis. In this patient, late in the course of the disease, acneform lesions appeared on the body which finally developed into ulcers. The patient died of meningitis, and from the description of the tissues it seems not impossible that this case may have been an early example of torulosis with cutaneous manifestations. The evidence, however, is not conclusive enough to regard it as certain.

In 1926 McGehee and Michelson[7] recorded a case of localized torulosis in a Negress who had deep abscesses in the region of the groin from which organisms were recovered which seemed to correspond with those of T. histolytica. The case, however, is unique in not manifesting visceral, meningeal and cortical lesions and in not resulting fatally.

In 1930 a case was recorded by Urbach and Zach.[3] In this patient, the disease began with an apparent lesion in the mouth from which it became generalized. Some months later there developed abscess-like swellings in the abdomen and thigh and later lentil-sized, purplish, hard nodules on the cheek. The pathologic picture of this lesion showed

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7. McGehee, J. L., and Michelson, I. D.: Torula Infection in Man, Surg., Gynec. & Obst. **42**:803, 1926.

plasma cells, epithelioid cells and large numbers of giant cells of epithelioid nature which contained enormous numbers of budding organisms. The clinical course of the disease in this case was characteristic, with death from meningitis one and a half years after the onset.

In 1932 Weidman [8] presented a case of experimental torulosis in the monkey at a meeting of the Atlantic Dermatological Conference. In the discussion which followed a case of cutaneous torulosis was reported by Mook. His patient presented a granulomatous lesion on the sole which was clinically undetermined but which on microscopic examination was identified as cutaneous torulosis.

As Weidman [6] has pointed out, the cutaneous aspects of this disease have not been accurately defined and are seldom recognized.

A case of generalized torula infection with all the characteristic clinical findings which resulted in the death of the patient from torula meningitis occurred in the University Hospital in 1931. The case was not diagnosed clinically nor was it pathologically recognized as torulosis until the sections were seen and identified by Dr. Weidman. The cutaneous lesions in this case were quite different from those described in the literature.

REPORT OF A CASE

History.—The patient, a boy of 17, was admitted to the hospital on May 29, 1931, complaining of a swelling in the left side of the neck, nausea, vomiting, loss of weight, weakness and headache. In his past history it was brought out that in 1924 he had first noticed the swelling at the right side of the neck near the angle of the jaw. He was taken to Grace Hospital in Detroit where a competent surgeon removed glands which were diagnosed as revealing Hodgkin's disease. From this time until his admission he lost weight and strength. Neither the glands of the neck nor those of other regions were again enlarged. A roentgenogram of the abdomen in 1928 was said to have shown an enlarged liver and displacement of the stomach. The patient received a blood transfusion and gained 20 pounds (9.1 Kg.). A year later, in 1929, the nausea and vomiting recurred and he again lost weight. Somewhat later swelling of both ankles developed, which persisted for a few days. He began to complain of headaches, and had occasional elevations of temperature and aching pain in the abdomen and chest. Four months previous to admission he had dyspnea on exertion, and at this time noticed the appearance of indurated, bluish-black, purpuric-looking lesions over the lower extremities. These symptoms continued up to the time of his entrance to the hospital.

Examination.—The patient was a markedly undernourished, weakened boy, very much disturbed mentally and apparently in considerable pain. The cutaneous examination showed that he had, beside the lesions to be described, characteristic psoriasis and multiple verrucae. The unusual lesions, however, consisted

8. Weidman, F. D.: Cutaneous Torulosis in a Monkey, Arch. Dermat. & Syph. **27**:720 (April) 1933.

of irregular, poorly circumscribed patches on the back of the thighs and behind the knees. These varied from areas about the size of a quarter to one patch as large as a hand. They resembled absorbing ecchymoses or bruises, but on palpation were found to be of almost boardlike hardness and to consist of an apparent infiltration involving not only the skin but the underlying subcutaneous tissue. There was no definite fixation, however, to the deeper tissues. The lesions were so firm that the skin could not be picked up or folded on itself. The color varied from a brownish green to a greenish purple. The epidermis did not appear to be changed under the patches. A small subcutaneous nodule was found about 1 inch (2.5 cm.) above the crest of the ilium. It was about the size and shape of a bean, of rubbery firmness and sharply circumscribed. There was no discoloration over this lesion, but the appearance of the infiltration suggested that it was of the same nature as the plaquelike lesion described on the thighs.

A biopsy of the lesion was made and from the presence of a large number of organisms a diagnosis of coccidioidal granuloma was suggested. Repeated blood cultures showed no growth, and no organism was grown from the spinal fluid, the examination of which, however, revealed the presence of meningitis. Later symptoms of meningitis developed and the patient died on August 4.

Autopsy.—Postmortem examination showed involvement of all the organs, especially of the brain, by the same organisms found in the section of skin. As the former lesions are to be reported on from the department of pathology at a subsequent date, the cutaneous lesions alone will be described in detail here.

A biopsy was done on one of the nodules from the thigh. The epithelium and upper layers of the corium showed little change of any significance. All the deeper layers of the corium extending below the subcutaneous fat showed a massive infiltration completely studded with innumerable giant cells. At first glance the impression was that of multiple miliary tubercles. Examined more closely, however, these giant cells were found to be in various stages of degeneration and to contain within themselves enormous numbers of refractive organisms having a double contour. Some of the giant cells contained intensely pyknotic nuclei; others contained but a few nuclei located in the periphery of the cell, the entire cell body being filled with refractive organisms varying greatly in size and showing distinct budding. The giant cells were distinctly those of the foreign body type and were apparently phagocytic. While all of these were filled with organisms, the latter were found throughout the entire section in such large numbers that each field contained many hundreds of varying sizes, visible in several planes. A striking feature of the microscopic picture was the absence of any marked inflammatory reaction about these cells. There were many lymphocytes and fibroblasts, but no polymorphonuclear cells and very few plasma cells. There was no suggestion of the formation of true abscesses, but here and there were large areas of softening which gave a foamy appearance to the section not unlike that seen in xanthoma. There was marked thickening and almost closure of the small arterioles in the section, but no distinct perivascular infiltration. Under high power magnification a curious gelatinous form of degeneration was seen to occur throughout the section which could be likened only to a form of caseation. The upper layers of the corium and the epithelium itself contained neither infiltration nor organisms.

I was able to secure, through Dr. Charles Kennedy, a microscopic section of a gland which had been removed four and a half years previously and on which

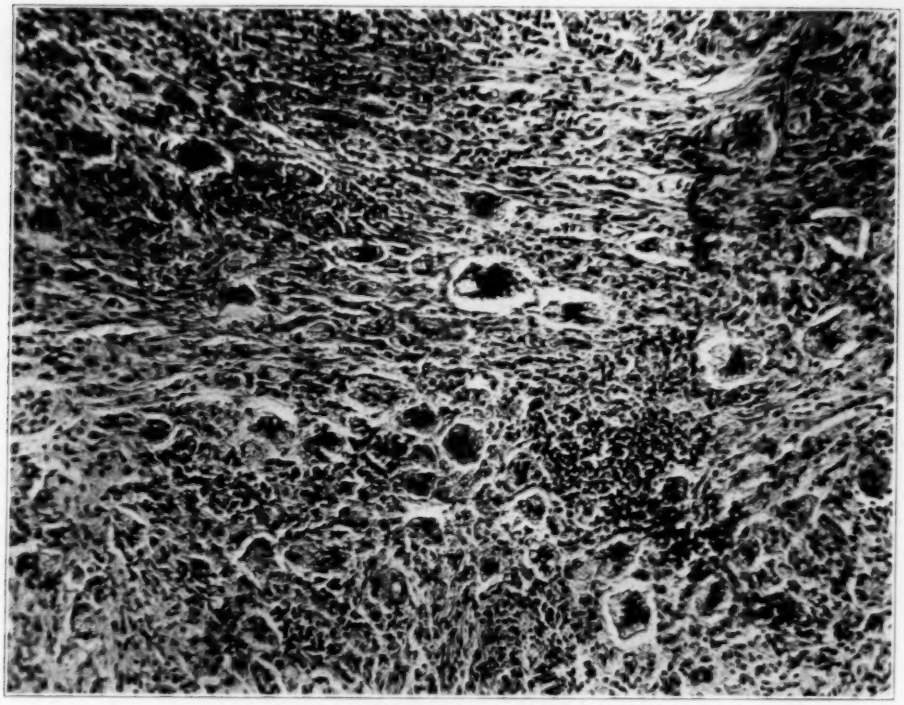

Fig. 1.—Infiltration showing large numbers of giant cells and the absence of an inflammatory reaction; low power magnification.

Fig. 2.—Large numbers of organisms of varying sizes lying in the giant cells and outside; high power magnification.

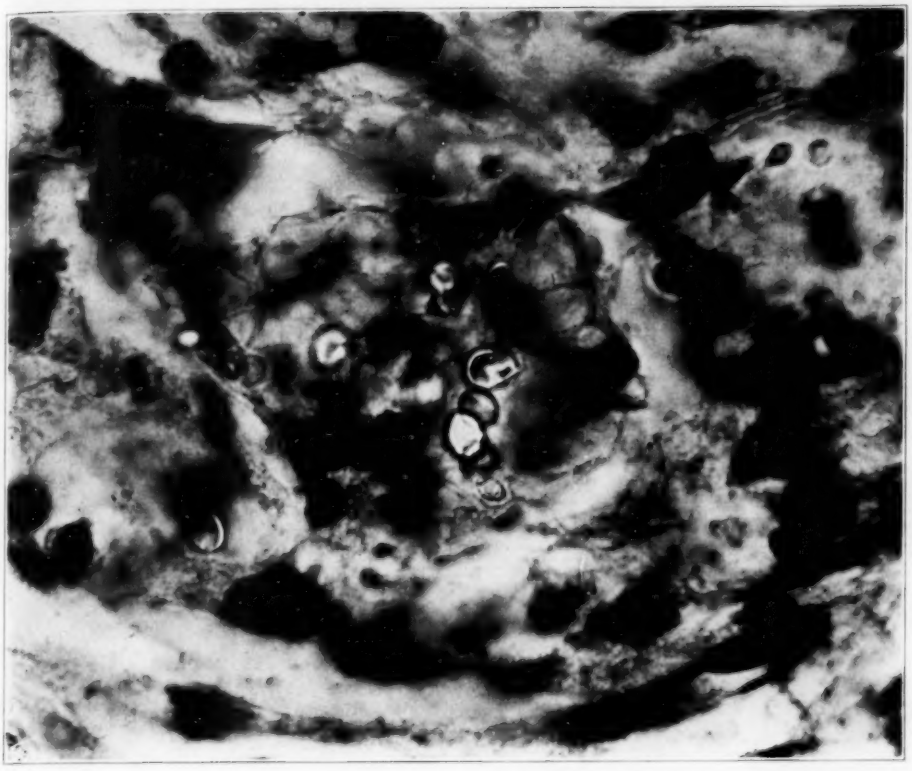

Fig. 3.—Section revealing same changes as those in figure 2.

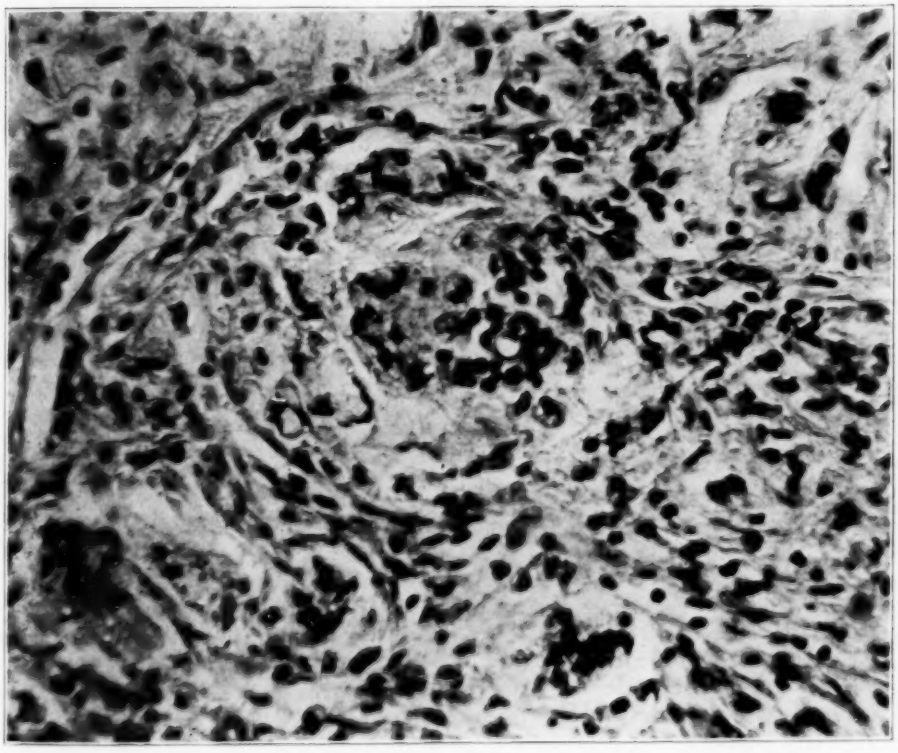

Fig. 4.—Section showing giant cells, a foamy appearance of the infiltration, and a few fibroblasts and lymphocytes. There is no inflammatory reaction. One organism is to be seen; high power magnification.

at that time the diagnosis of Hodgkin's disease was made. While the gland itself showed no pathologic change in any way resembling the cutaneous and visceral manifestations seen later, and while the process in the gland resembled closely that of Hodgkin's disease or of lymphosarcoma, there were scattered here and there definite double-contoured, yeastlike bodies which make it certain at this early period torula infection had taken place and was without doubt responsible for the changes in the gland.

SUMMARY

A case of fatal torulosis is reported with cutaneous lesions differing somewhat from those previously described.

From the literature it is found that cutaneous manifestations of torulosis can occur as acneform pustules, granuloma-like ulcers and deep-seated abscesses. To these must now be added subcutaneous and deep-seated nodules resembling ecchymoses, varying in size from small plaques to those the size of a hand and having no tendency to ulceration.

In histopathologic characteristics cutaneous torulosis conforms to that seen in other organs, modified only by the cutaneous structure. In general it may be described as a caseating, granulomatous process, characterized by enormous numbers of giant cells of the foreign body type, little inflammatory reaction and a peculiar form of caseation which may lead to ulceration, but did not in the case here described.

From blastomycosis the condition is easily differentiated pathologically by the absence of abscess formation and by the enormous numbers of organisms existing free and contained in giant cells throughout the section. From coccidioidal granuloma it is differentiated not only by the same features which differentiate it from blastomycosis, but also by the absence of endosporulation.

While few cases occur in the literature, it is suggested that cutaneous manifestations of Torula and indeed torulosis itself may not be so rare as the reported cases would seem to indicate.

ABSTRACT OF DISCUSSION

Dr. Fred D. Weidman, Philadelphia: Dr. Wile has called attention to the first really important case of torulosis described in the New World. Those which were first reported in the American literature were described in but one or two lines and have not had the benefit of expert dermatologic study, such as appears in Dr. Wile's paper. There is only one complete report, that of Urbach.

I have had four experiences with necropsies in cases of torulosis. The first case was one of cerebrospinal involvement without cutaneous lesions. In the second, since there were no cutaneous lesions, the diagnosis was at first that of Hodgkin's disease, just as in that of Dr. Wile's. The third case was that of a chetah which died in the Philadelphia Zoological Gardens of widespread visceral involvement, but with no lesions of the skin. Only last week Dr. Martin brought me material from a mass on the lip of a horse which abounded with the yeast cells and yielded cultures of T. histolytica. The animal was killed and found to have generalized torulosis.

My curiosity led me to test out the action of the torula cultures on a monkey because I had never seen a dermatologic case of torulosis. The lesions looked at first much like furuncles—large, fluctuating masses which contained pyoid material. True pus is not found in these lesions. They regressed spontaneously over a period of three months and were replaced by a scar within which the organisms were still present. That is, although the lesions had apparently healed, the organism was still present. (Lantern slides were shown emphasizing certain distinctive points, such as the thick mucinoid envelop around the parasites, the inclusion of the parasites in giant cells, their varying size, the marked renal and splenic enlargement in the chetah, the scantiness of the cellular reaction, particularly of polymorphonuclears, to the parasites and the usefulness of wet india ink for demonstrating the halo around the cells which is so highly diagnostic.)

Most cases of cutaneous torulosis come to the dermatologist through the neurologist or internist, under which circumstances he is in a strategic position to render valuable assistance in identifying the presence of a grave internal medical state.

Dr. J. Gardner Hopkins, New York: I think it is most important that Dr. Wile has called attention to this case, because to go through the literature on this subject is the most confusing experience I have ever had. These cases have been reported under the name of blastomycosis and other diagnoses; the organisms have been called by different names, and often it is extremely difficult to tell what the reporter is describing. Some may remember the exhibit that Dr. Benham gave at Milwaukee last year of the fungi of so-called European blastomycosis and of torulosis. I think there is no question but that they are identical and that the first case was similar to that described by Busse and Buschke as blastomycosis. Fortunately, Buschke's culture has been preserved. (Slide shown.)

All the cultures form these gelatinous colonies which are very characteristic in their brownish color. In sections they show a distinct wall and in india ink mounts one can demonstrate this capsule around them. Although the Buschke strain has been preserved in culture for forty years, on its passage through animals the same lesions are obtained as those from the recently isolated cultures. The agglutination reactions are also convincing. There is not only cross-agglutination, but also complete reciprocal absorption of agglutinins by the strains isolated from meningitis and that of Busse and Buschke.

A question of interest is the origin of these organisms. In the survey which Dr. Benham and her associates made of Cryptococci occurring on normal skin they found four types, the fourth type being indistinguishable from Buschke's and Busse's Blastomyces. This type grows and agglutinates like the strains isolated from torula meningitis and European blastomycosis. The only difference they could find was one of virulence. After a number of passages through animals they still could not produce distinct lesions with these strains. I think, however, the presence of avirulent strains of the same fungus on normal skin may explain the puzzling origin of these infections.

It will be noticed that these organisms are called Cryptococci, which again is rather confusing. I should like to agree with Dr. Wile and call them Torulae, but if I did so, I should get into an argument with those who call them Cryptococci. The question is one of priority.

In an attempt to determine this identity an interesting incident occurred. In trying to find out what Kützing meant when, in 1833, he called the fungus Cryptococcus, we attempted to find out what he actually saw. Kützing's original

description was difficult to trace. Finally Dr. Barnhart of the New York Botanical Gardens found twelve little pamphlets of Kützing's that looked like students' notebooks. On the front page of each were neatly printed the names of the organisms of which the book contained specimens, some of which were dried on little pieces of paper. Finally he found a specimen of Cryptococcus hominis which Kützing said he had found on window panes. It resembled a bit of mud and was mounted on a piece of glass. A little of this was mounted in fluid, and after the material was well moistened yeastlike cells, some with buds, could be recognized, which resembled the fungi under discussion. It was extremely interesting to me that this old specimen which had been lying around in a book for just one hundred years could be mounted, and that one could see just what Kützing saw when he gave the micro-organism its name. In fact, it was probably seen better because a better microscope was used.

Dr. Hiram E. Miller, San Francisco: Dr. John H. Kessel, at the meeting of the California Medical Association just a month ago, reported the inoculation into a monkey of Torula from a patient with cutaneous lesions. Cutaneous lesions in the monkey also developed. The article as yet has not been published, but the author showed photographs of the cutaneous lesions in the patient. The type of ulcers and arrangement of the lesions were similar to those that Dr. Weidman has shown in his laboratory animals.

Dr. Udo J. Wile: In the case I have just described, it was possible to secure from the surgeon who performed the operation a section of a lymph gland removed four and a half years previously. The section contained the same organisms which were observed throughout the body at necropsy. From the discussion one realizes that the entire question of torula infection is still confusing. It seems not unlikely that many of the cases of meningitis in which yeast or yeastlike organisms have been seen may well have been examples of torula meningitis. With regard to the nomenclature and the propriety of the name Torula, usage might seem to justify its retention. The disease has been recognized in veterinary medicine for many years. It would undoubtedly be better if one could agree on a uniform name for the organism, but whether it should be called Cryptococcus or Torula histolytica should, I think, be left for mycologists to decide. The disease, I think, however, should be called torulosis. There is perhaps one point in favor of retaining the name of T. histolytica for the organism in that it suggests the tendency of the organism to produce a peculiar lysis in the tissues. As has been indicated, this is in the form of a peculiar gelatinous necrosis which occurs not only in the brain and viscera but also, as I have shown, in the skin.

IS SPIEGLER-FENDT SARCOID A CLINICAL OR HISTOLOGIC ENTITY?

GEORGE M. LEWIS, M.D.
NEW YORK

In the cases reported here there were found certain clinical and histologic features not shared in their entirety by other, probably closely related, lymphoblastomatous diseases.

REPORT OF CASES

CASE 1.—*History.*—Mrs. J. O., a housewife, aged 58, who was referred by Dr. J. Homer Cudmore, when first observed on Nov. 24, 1933, complained of a steadily enlarging mass on her right breast. The duration was three months. There were no subjective symptoms. The familial and the personal history were unimportant.

Physical Examination.—The patient was 20 pounds (9.1 Kg.) overweight, but was otherwise in good health. Examination of her skin disclosed an oval-shaped, elevated mass, measuring 3 by 2 cm., situated 2.5 cm. below and to the mesial side of the right nipple, the long axis being lateral (fig. 1).

The affected area was bright red. The surface was smooth but irregular. On the surface near the inner border were several millet-seed-sized papules, more or less translucent and shiny. On palpation the tumor was of firm consistency, giving one the impression of feeling rubber. Beyond the distal border of the mass was a group of pinhead-sized, palpable, slightly reddened papules, the color of which on diascopic pressure was obliterated, leaving whitish-yellow stains, possibly to be compared with boiled sago grains, although a yellowish tint was also present. A group of similar discrete pinhead-sized lesions, occupying an area 2 cm. in diameter, was present on the thoracic wall, 3 cm. mesial to the inner border of the large mass. The discrete papules showed rounded tops and were not umbilicated. When viewed in a reflected light, the lesions were distinctly shiny.

Laboratory Data.—Studies of the blood on two occasions revealed normal cell counts and no disproportion. The blood chemistry was not altered from the normal. Examination of the feces disclosed a preponderance of gram-positive putrefactive bacilli and cocci over gram-negative organisms in the ratio of 80 to 20 per cent. The Wassermann reaction was negative. The results of several urinalyses were normal. The patient's skin did not react to the injection of old tuberculin (1:100,000).

Pathologic Changes.[1]—The predominant findings were in the cutis (fig. 2), where cellular infiltrates were seen, apparently in no relation to the blood vessels,

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Read before the Section on Dermatology and Syphilology at the Eighty-Fifth Annual Session of the American Medical Association, Cleveland, June 13, 1934.

From the Department of Dermatology and Syphilology, New York Post-Graduate Medical School and Hospital, Columbia University, under the direction of Dr. George Miller MacKee.

1. The pathologic interpretations and comments in this article were prepared by Dr. David L. Satenstein.

although in all of the cellular areas small blood vessels were noticeable. The overlying epidermis was quite normal except over the largest area of changes in the cutis where it was flattened. No evidence of hemorrhage or of pigment was found. The larger area showed in its greater part, more or less packed light cells, whereas in the center was an area of closely packed small darkish cells. Scattered between the lighter larger cells were isolated, but numerous, small dark cells. No connective tissue fibers were observed within the cellular areas.

The cells of the infiltrate were predominantly of large size, and the majority of the cell outlines were not distinct and appeared somewhat granular. The nuclei

Fig. 1 (case 1).—A localized, superficial mass, with smaller satellite lesions.

were of the epithelioid variety with large, loosely arranged chromatin fibers; occasionally chromatin granules were noted. In a few instances the nucleus appeared to occupy almost the entire cell. Occasionally mitotic figures were noted in this type of cell. Scattered throughout among the larger cells were occasional plasma cells and a number of small lymphoid cells. Some very thin-walled vessels were seen. In the central portion, the cells were of characteristic lymphoid variety. In the zones where the cell infiltrates were limited to the upper cutis there was no suggestion of nodule arrangement, and no special relation of larger and smaller cells. The cells were mixed, the larger cells predominating. In the surrounding zone there was some disassociation of connective tissue bundles and fibers; other-

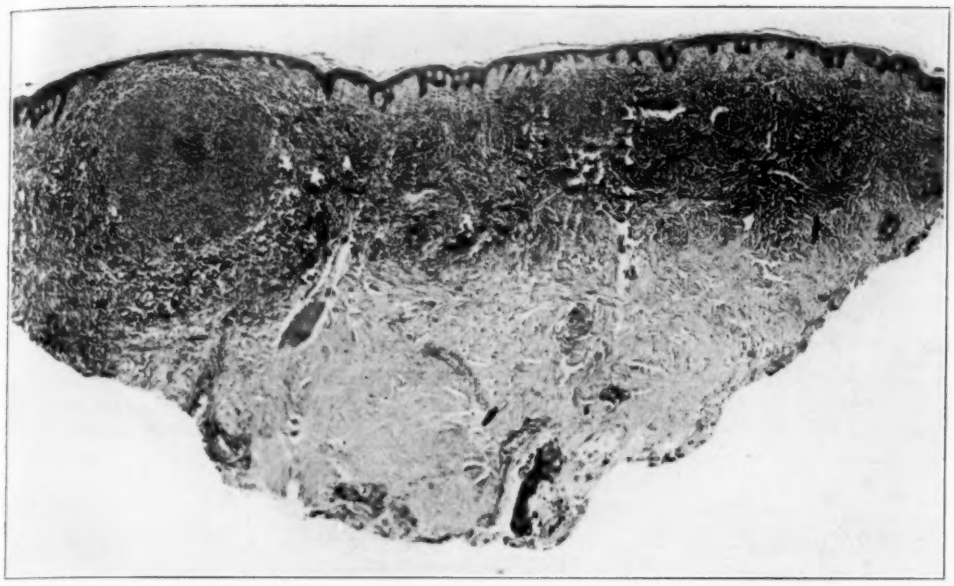

Fig. 2 (case 1).—Low power magnification, showing the disease process limited to the upper cutis.

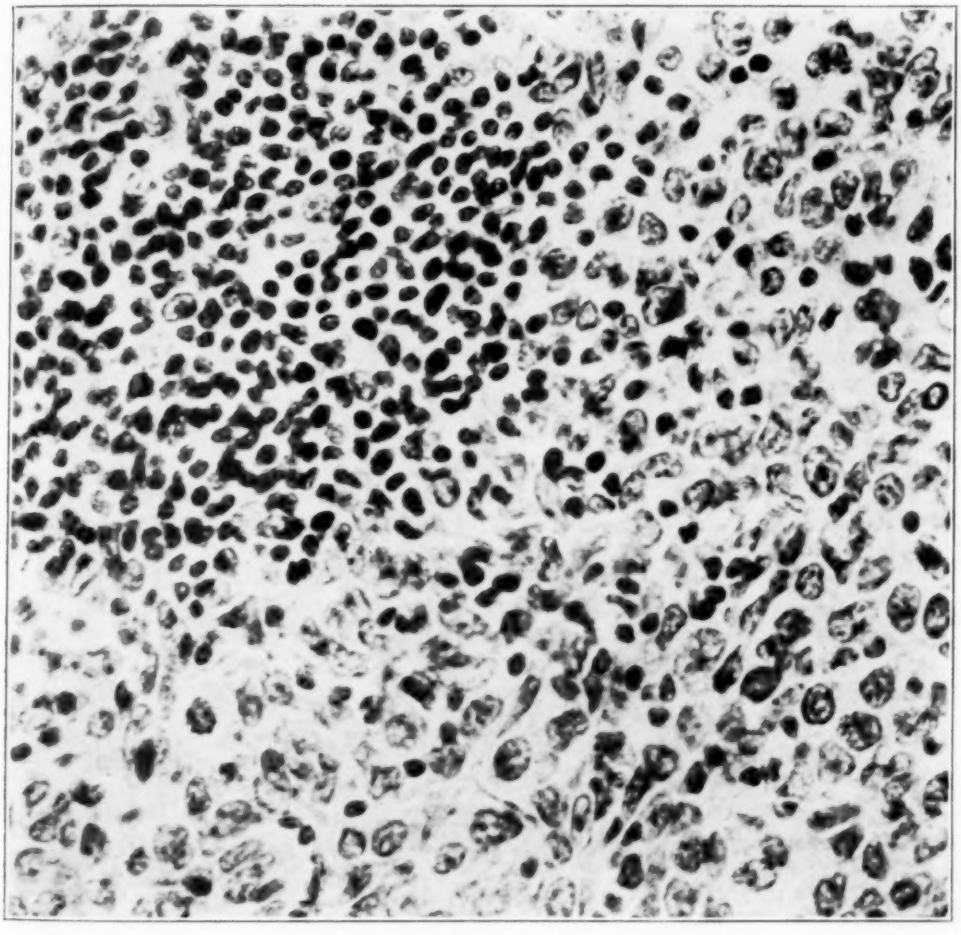

Fig. 3 (case 1).—High power magnification. The infiltrate consists of lymphocytes and large reticulum cells.

wise there were no noteworthy changes. In the deep cutis were isolated and small groups of larger cells, not in any special relation to any of the structures. The specimen was an example of a cellular infiltrate assuming a nodular formation in one zone and a diffuse infiltrate in another zone.

Treatment.—Two treatments with x-rays were given, the total dose being 1½ unfiltered skin units (540 roentgens). Solution of potassium arsenite was also prescribed.

Course.—By Jan. 12, 1934, the disease appeared cured with the exception of several pinhead-sized, flat, shiny, skin-colored papules. (These had escaped roentgen therapy by being covered with lead foil.) On March 9 the small papules were apparently unchanged. There were no new lesions.

A case showing somewhat similar pathologic changes but differing in its clinical picture is reported through the courtesy of Dr. George M. MacKee:

CASE 2.—*History.*—Mrs. J. K., aged 45, was first seen on Aug. 19, 1929, in regard to a lesion on the anterior surface of the right thigh of several months' duration. The lesion was immediately under a metal fastener on her garter. There was no history of recent ingestion of any drug, but she stated that her skin was unduly sensitive to iodine and formaldehyde and that the ingestion of bromides caused a pustular eruption to appear.

Examination disclosed a half-dollar-sized, circumscribed, slightly elevated, bright red plaque. Little infiltration could be detected, and no scaling was noted. The area was somewhat sensitive when palpated. The clinical diagnosis was reserved.

Pathologic Changes.—There were three areas of fairly sharply limited cellular infiltrates, separated from each other, although not encapsulated. The larger zones of infiltrate extended from the subepidermic zone down to the zone of sweat glands. There were smaller areas of similar infiltrations, in part limited to the midcutis and upper cutis, and in part situated around deep sebaceous glands. At the extreme edge of the section was a fairly distinct perivascular cellular infiltrate. In the larger accumulations of cells, the large lighter cells predominated in the central portion of the area; about them was a broad area of closely packed darker cells, in part mantling the larger cells and in part mixed with them. Scattered through the cell infiltrate were a moderate number of very thin-walled vessels. The cells of the lighter areas were of fair size and similar to those described in the previous case, although the majority of them were not so large. There were no mitotic figures, and only an occasional plasma cell was present. The smaller cells were of the densely and darkly stained type, the cell bodies not being visible. The cells about the vessels were predominantly of small lymphoid variety, although an occasional larger cell was noted among them. Aside from the presence of the thin-walled vessels in the cellular zone and a moderate edema with some granular degeneration of connective tissue, there was little change. About the sebaceous glands was a similar type of lymphocytic infiltrate, and there was some degeneration of the sebaceous gland cells. The sweat glands exhibited no change from the normal.

Treatment.—The entire lesion was excised, with no recurrence for five years. No further lesions developed.

CASE 3.—*History.*—This case was first presented by Goodman before the Section on Dermatology and Syphilis of the New York Academy of Medicine (A Case for Diagnosis: Granuloma Annulare? ARCH. DERMAT. & SYPH. **14**:216 [Aug.] 1926) and later by MacKee and Wise before the New York Dermatological Society (Spiegler-Fendt Sarcoid, ARCH. DERMAT. & SYPH. **14**:232 [Aug.] 1926). The history was given as follows: "Ida C., aged 26, a houseworker, presented above the inner canthus of the left eye a group of deep-seated, thick-walled vesicles, the skin in the immediate vicinity being slightly reddened. The individual vesicles were pea-sized and smaller, with dilated capillaries passing over them. The redness was due to treatment with the Kromayer lamp."

The pathologic changes which are noted in the following paragraphs have not been previously published:

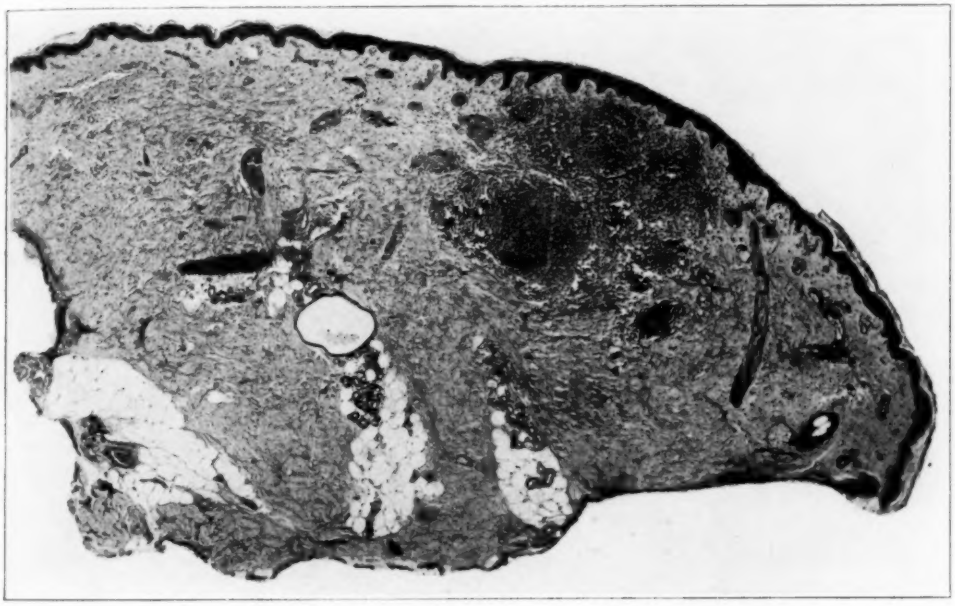

Fig. 4 (case 3).—Low power magnification. The cellular infiltrate is seen in the upper and middle cutis.

There were a number of focal cell infiltrates of varying size. In some of the smaller ones were some fairly large blood vessels, the walls of which were definitely swollen. In zones away from the cell infiltrate, the vessels were dilated and their walls edematous, and a small amount of perivascular cellular infiltrate was present.

The infiltrate was predominantly of small lymphocytes, among which were scattered a few larger cells. The nuclei of the larger cells were large and the chromatin fibers somewhat disorganized. Occasional mitotic figures were noted. At the outlying zone of cellular accumulation, strands of degenerated tissue were noticeable. Considerable numbers of thin-walled vessels were found, especially at the margin of the cellular areas. An occasional larger vessel with edematous walls was noted within the infiltrate. A moderate interstitial edema and some dilation of the lymphatics, as well as of the papillary vessels, were present.

The fourth case to be reported was recognized clinically to be similar to Sweitzer's case [2] and the first one reported by Spiegler.[3]

CASE 4.—*History.*—Mrs. A. H., a housewife of 34, came under observation on Feb. 13, 1934, through the courtesy of Dr. Douglass Palmer and Dr. John Remer. She first noticed a small nodule under the skin of the left anterior axillary fold

Fig. 5 (case 4).—Low power magnification. A section showing a nodule in the deep cutis.

eight months previously. This gradually increased in size, and other lesions appeared on scattered areas of the trunk. Some of the tumefactions were preceded

2. Sweitzer, S. E.: Sarcomatosis Cutis of Spiegler, Arch. Dermat. & Syph. **11**:481 (April) 1925.

3. Spiegler, E.: Ueber die sogenannte Sarkomatosis Cutis, Arch. f. Dermat. u. Syph. **27**:163, 1894.

by "black and blue marks," which disappeared within two or three weeks with the gradual evolution of the deeper lesions. Seven lesions had been removed surgically. None of the lesions had ulcerated. Several general pathologists considered the disease malignant but were unable to classify it. The familial and the personal history contained no pertinent facts.

Physical Examination.—There were seven scars on the trunk where lesions had been surgically removed. On the abdomen, chest and back were five discrete subcutaneous tumors. The overlying skin was not changed in color from the normal, and there was no elevation above the surface. On palpation, hard, well circumscribed lesions were detected, varying in size from that of a millet seed to that of a pea. There was no pain, but on deep palpation some tenderness was elicited. The skin was not attached, and the lesions were freely movable below.

The physical examination was negative except for the finding of two rounded, ovoid masses, measuring 3 by 5 cm., near the left iliac crest and adnexial region.

Laboratory Data.—Examination of the blood revealed a normal leukocyte count and no relative lymphocytosis. Roentgenologic studies of the chest and abdomen showed no abnormality.

Pathologic Changes.—In the deep cutis there was a fairly sharply circumscribed cellular mass which was arranged in lobes and lobules separated, in part, by connective tissue. The cells in the mass could be divided into two varieties; the impression given was one of lighter and darker areas. The lighter areas were more marked at the outer portion of the infiltration. Within the center of the darker portions were a number of thin-walled vessels and an occasional dilated vessel. The cells of the higher areas were somewhat loosely arranged in a network, whereas the elements of the darker areas were more closely packed.

The elements of the darker areas were small, round, densely stained cells the bodies of which could hardly be determined. Mixed among these cells were occasional plasma cells. The elements of the lighter areas were of various shapes; some were large and spindle-shaped, some rounded, some polyhedral, and others ill defined and shaped irregularly. The majority of these cells appeared to have projections extending from their margins to join on to neighboring cells. The nuclei were large with somewhat loosely arranged chromatin fibers. An occasional mitotic figure was to be noted. The cell bodies, the shapes of which have been mentioned, were finely granular. These cells were not sharply limited but extended into areas of darker elements. There did not seem to be any connective tissue between these larger cells. In the area of darker cells there were fine connective tissue fibers in considerable number as well as numerous small blood vessels. An occasional multinucleated cell was noted among cells of the lighter area.

The findings as a whole gave one the impression of a neoplasm composed of large cells surrounded by connective tissue containing blood vessels and small lymphocytes.

Course.—Following roentgen therapy by Dr. John Remer, the lesions of the skin and the two masses in the abdomen entirely disappeared. Solution of potassium arsenite was also prescribed and taken to the point of tolerance. Several new lesions appeared, but these, too, quickly responded to roentgen therapy. In June 1934, one year after the onset of the disorder, an intractable headache developed accompanied by vertigo, nausea and vomiting. The patient died, and at autopsy involvement of the ovaries (considered primary) was noted, with lesions in the retroperitoneal nodes, the gallbladder, the greater omentum and the brain.

SUMMARY

The first three cases had clinical characteristics in common in that the lesions were localized and superficial. In other clinical respects they were different. The pathologic picture, however, was fairly constant.

In the cutis were found discrete nodules and some diffuse infiltrations. The predominant picture was that of a lymphoid infiltration containing a few large reticulated cells either in the center of the mass or scattered through the lymphocytic zone.

The fourth case differed radically in a clinical sense from the others, showing multiple disseminated subcutaneous nodules, firm to the touch, the overlying skin being of normal color. Two small masses were detected in the abdomen. Later, other internal lesions developed resulting in death. Histologic study of the skin revealed the pathologic process situated in the subcutis, in the form of a circumscribed cellular mass. The reticulated cells were predominant, and a few lymphocytes were either within the center of the mass or scattered throughout.

In all the tissues the presence of new blood vessels was noted. The absence of a reticulum was a feature. The reticular cells were similar in character to those noted in various other types of lymphogranulomas or lymphoblastomas as well as in granuloma fungoides. Clumping of either naked nuclei (granuloma fungoides) or proliferative intracellular nuclei (lymphogranulomatosis) was not found in these specimens. Under low power magnification the appearance of some of the specimens suggested a tumor formation, whereas study of the details under high power magnification brought the process into the group of lymphoblastoma or lymphocytoma.

The differentiation from granuloma fungoides was relatively easy. The differentiation from lymphogranulomatosis was not so simple. The presence of more than one type of cell with an occasional multinucleated cell and the presence of blood vessels suggested the possibility of Hodgkin's disease, but the character of the multinucleated cell was not that of the Reed-Sternberg cell. The multiplicity of cell types as noted in lymphogranulomatosis was not present here.

All the histologic evidence fitted in with the lymphoblastomas or lymphocytomas but was somewhat different from the diseases described under this heading. It would appear that the findings were sufficient to warrant their being considered a distinct pathologic entity in the lymphogranuloma group.

REVIEW OF THE LITERATURE

In an excellent paper on sarcomatosis cutis (Spiegler) read before the American Dermatological Association in 1924, Sweitzer summarized the literature to that date and reported a fatal case. The pertinent

clinical facts of these cases and the ones reported since that date are herewith briefly summarized. Many cases reported under other titles have no doubt been unintentionally omitted, and cases in which the diagnosis was not reasonably well established are considered separately. Since the histologic changes in the established cases appear to be fairly constant, no mention is made of the pathologic changes. The small number of reported cases would indicate that the disease is rare; it is probable, however, that while it is not common, its features sometimes have been overlooked. It is unlikely that in all cases the involved tissues have been examined microscopically, and even when this is done, comparatively few (general) pathologists recognize the disease as such.

It is probable that there exist two distinct forms of the disease. The first type is more or less localized, superficial and benign. The second type includes the disseminated, deep-seated tumefactions the outcome of which may be favorable or fatal.

Clinical Characteristics of the Reported Cases.—1. Localized, Superficial Variety: Cases reported by Spiegler,[3] Pospelow,[4] Polland,[5] Vollmer,[6] Trimble,[7] Fox,[8] MacKee and Wise,[9] Caro and Zeisler,[10] Way and Alderson[11] and Lewis[12] (two cases) are herewith summarized. In these eleven cases, the average age of the patients was 50, the youngest being 13 and the oldest 73. Eight females and three males were affected. The duration of the disease from its onset to its termination varied from a few months to several years. There appeared to be a predilection for the face (seven cases), the other locations being the knee, leg, thigh, breast and in one instance the shoulders and sternal region. In all cases except one the lesions were few in number, and when they were multiple, there appeared to be a tendency toward grouping. The color of the lesions was usually red, being at times

4. Pospelow, A. J.: Ein Fall von erfolgreicher Arsen-Medication bei Hautsarcom, Arch. f. Dermat. u. Syph. **34**:247, 1896.

5. Polland, R.: Sarcomatosis Cutis (Spiegler), Arch. f. Dermat. u. Syph. **111**:3, 1912.

6. Vollmer, E.: Ueber Sarkomatosis und solitäre Sarkome der Haut, Arch. f. Dermat. u. Syph. **136**:273, 1921.

7. Trimble, W. B.: Sarcoid (Spiegler-Fendt Type), Arch. Dermat. & Syph. **7**:666 (May) 1923.

8. Fox, H.: A Case for Diagnosis (Sarcoid?), Arch. Dermat. & Syph. **8**:434 (Sept.) 1923; Sarcoid or Sarcoma, ibid. **11**:855 (June) 1925; A Case for Diagnosis (Sarcoma?), ibid. **21**:148 (Jan.) 1930.

9. MacKee, G. M., and Wise, F.: Spiegler-Fendt Sarcoid, Arch. Dermat. & Syph. **14**:232 (Aug.) 1926.

10. Caro, M., and Zeisler, E. P.: Sarcoid (Spiegler-Fendt Type), Arch. Dermat. & Syph. **22**:1086 (Dec.) 1930.

11. Way, S. C., and Alderson, H. E.: Sarcoid (Spiegler-Fendt Type), Arch. Dermat. & Syph. **26**:362 (Aug.) 1932.

12. The present communication.

bright and at other times dull, a purplish and even a brown tone being noted. In one instance, the tumefaction was said to be skin-colored. In over half the cases, superficial telangiectasia over the lesions was noted. The lesions were usually discrete, elevated and of a consistency varying from soft rubber-like to firm; in one case the lesion was hard. In two instances the affected skin consisted of infiltrated plaques. The lesions were all attached to the skin and elevated above its surface and were clinically not situated in the subcutis. The borders of the majority of the lesions were sloping and not sharply demarcated from the surrounding skin. In size they varied considerably but for the most part were comparatively small. In no case did ulceration occur. Enlargement of lymph nodes was reported in only one instance. No associated disease appeared as a common occurrence, and most of the patients were in apparent good health. Subjective symptoms were usually absent; in Pospelow's case, itching and shooting pains were noted. Spontaneous disappearance of the lesions occurred at times, and their involution was reported following arsenotherapy and roentgen therapy. The disease was cured by surgical excision in two instances. In one instance (Fox) there were numerous local recurrences but with no tendency to widespread dissemination. In a personal communication, Fox stated that his patient had since died, the cause being chronic endocarditis and chronic nephritis. In one case (Trimble) a fatal outcome was later reported following a growth in the orbit described as a lymphosarcoma.

2. Disseminated Form: The following summary includes cases reported by Koebner,[13] Hardaway,[14] Langenbuch,[15] Touton,[16] Spiegler [3] (two cases), Kaposi [17] (three cases), Bowen,[18] Tandler,[19] Joseph,[20]

13. Koebner, H.: Heilung eines Falles von allgemeiner Sarcomatose der Haut durch subcutane Arseninjectionen, Berl. klin. Wchnschr. **2**:21, 1883.

14. Hardaway, W. A.: Case of Pigmented Neoplasm of the Skin, J. Cutan. Dis. **1**:97 (Jan.) 1883.

15. Langenbuch, R.: Heilung recidivirter multiples Sarkome der Hautdecken nach einem Erysipelas migrans, Deutsche med. Wchnschr. **16**:1241, 1890.

16. Touton, K.: Ein durch Arsen geheilter Fall von sogenannter allgemeiner Hautsarkomatose auf leukämischer oder pseudo-leukämischer Grundlage. Protozoenähnliche Gebilde in den Hauttumoren, München. med. Wchnschr. **40**:21, 1893.

17. Kaposi, M.: Pathologie und Therapie der Hautkrankheiten, ed. 5, Berlin, Urban & Schwarzenberg, 1899, p. 909; Diseases of the Skin, translated by J. C. Johnston, New York, William Wood & Company, 1895, p. 602.

18. Bowen, J. T.: Mycosis Fungoides and Sarcomatosis, J. Cutan. Dis. **15**:65 (Feb.) 1897.

19. Tandler, G.: Beitrag zur Kenntnis der Sarcomatosis Cutis, Arch. f. Dermat. u. Syph. **41**:163, 1897.

20. Joseph, M.: Ueber Hautsarcomatose, Arch. f. Dermat. u. Syph. **46**:177, 1898.

Fendt,[21] Polland,[22] Sutton,[23] Vollmer,[6] Sweitzer,[2] Trimble [24] and Lewis.[12] Common to all cases was the development, usually rapid, of lesions on scattered parts of the skin, that of the trunk and extremities being chiefly affected. There were thirteen males and six females in the series. The age incidence varied from 8 years to 76; the average age was 43. In three cases the age of the patient was not disclosed. Although the tumefactions evolved within a few days or weeks, there appeared to be a decided limitation to their size; after having attained a certain size, the lesions remained unchanged for months or years. The number of lesions present in one person varied from six to two hundred; the average in those cases in which the lesions were counted was seventy-seven. The color varied. In three instances (Fendt, Sweitzer and Lewis) the overlying skin was for the most part of normal color, some of the lesions having a bluish-red tone while they were developing; in most of the cases, they had a bluish-red tone, but in others they exhibited crimson and bright red tones. In some instances, the lesions were elevated above the level of the skin; they could always be palpated as deep nodules or plaques. On palpation, the lesions were almost all from firm to hard although some were described as elastic and one as doughlike. The majority of the nodules varied in size from that of a millet seed to that of a walnut. Solitary palm-sized plaques were described by Spiegler and Polland. In Langenbuch's patient, a tumor developed as large as an egg. There was enlargement of lymph nodes to a moderate degree in about 25 per cent of the cases. Ulceration was noted in only one case (Touton). In no case in which the blood picture was reported was there any deviation from the normal. In four instances, internal lesions were found, either clinically or at autopsy. In Spiegler's first case, several nodules were found in the stomach. Scattered nodules in the internal organs were also reported by Bowen. In Sweitzer's case, there were microscopic lesions in the kidneys and heart. In Lewis' case, lesions were found at autopsy in the ovaries, retroperitoneal nodes, gallbladder, greater omentum and brain.

Spontaneous involution of lesions during fever was reported by Spiegler, Pospelow and Sweitzer. In Langenbuch's patient, the lesions entirely disappeared following an attack of erysipelas. Arsenic was used in the treatment of practically all patients. Spiegler and Joseph

21. Fendt, H.: Beiträge zur Kenntnis der sogenannten Sarcoiden Geschwülste der Haut, Arch. f. Dermat. u. Syph. **53**:213, 1900.

22. Polland, R.: Ueber sarkomartige Hauttumoren, Arch. f. Dermat. u. Syph. **104**:69, 1910.

23. Sutton, R. L.: Sarkoide Tumoren der Haut, Dermat. Wchnschr. **58**:537 (May 9) 1914.

24. Trimble, W. B.: Sarcoma Cutis, Arch. Dermat. & Syph. **10**:656 (Nov.) 1924.

gave a rather gloomy prognosis. Fendt advocated prolonged arsenotherapy and was more hopeful. The value of roentgen therapy in affecting at least a temporary improvement was emphasized by Sweitzer. The ultimate outcome of the reported cases was difficult to evaluate. Five patients were known to have died (Spiegler, first case; Kaposi, third case; Sweitzer; Joseph; Lewis). Of the rest, some had discontinued treatment, and in others the lesions were said to have disappeared. The patients were usually kept under observation for too short a period of time for the result to be conclusive. A guarded prognosis appears to be advisable, and long continued arsenic medication to the point of tolerance, combined with roentgen therapy, seems to offer the patient the best chance for recovery.

Additional Reported Cases Suggestive of Spiegler-Fendt Sarcoid.—In addition to the cases described in the foregoing section, several other cases have been reported in the literature which had more than a superficial resemblance to cases of Spiegler-Fendt sarcoid. In a case reported by Scholtz,[25] arsenic was of decided benefit. Murphy[26] described in detail a patient who was thought to have neurofibromatosis. Two cases reported by Nicholas, Gaté, Gaillard and Ravault[27] were also suggestive. In a case reported by Fox,[28] there appeared to be a transition in the clinical picture suggesting a change from Hodgkin's disease to Spiegler-Fendt sarcoid. Oliver and Finnerud[29] presented a 54 year old man with a generalized nodular eruption which histologic examination showed to be round cell sarcoma. A 60 year old man with disseminated tumors was reported by Schmidt.[30] The lesions were elevated and rose-violet. Histologic study showed "a dense infiltration of large irregularly rounded cells arranged in pockets separated from one another by connective tissue, filling the entire corium and upper portion of the sub-cutis." In Saunder's case,[31] the lesions bore some resemblance to lipomas, the histologic examination showing a spindle cell sarcomatosis. Possible cases were reported by

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25. Scholtz, M.: A Case of Multiple Sarcomatosis of the Skin Treated Favorably with Arsenic, Lancet-Clinic **114**:361, 1915.

26. Murphy, J. B.: Multiple Sarcomata of the Skin, Surg. Clin. **5**:379, 1916.

27. Nicholas, J.; Gaté, J.; Gaillard, R., and Ravault, P.: Two Cases of Cutaneous Sarcomatosis, Ann. de dermat. et syph. **5**:129 (March) 1924.

28. Fox, H.: Lymphosarcoma, Arch. Dermat. & Syph. **12**:306 (Aug.) 1925.

29. Oliver, E. A., and Finnerud, C. W.: Sarcomatosis Cutis, Arch. Dermat. & Syph. **15**:77 (Jan.) 1927.

30. Schmidt, F.: Sarcomatosis Cutis (Mycosis Fungoides d'Emblée), Arch. Dermat. & Syph. **15**:616 (May) 1927.

31. Saunders, H. C.: Sarcoma Cutis, Arch. Dermat. & Syph. **18**:926 (Dec.) 1928.

Netherton,[32] Freund [33] and Zeisler and Caro.[34] The evidence in these cases was contradictory. Cole and Driver [35] presented a woman of 54 with superficial, reddish lesions on the face and neck, in whom the blood picture was normal and no enlargement of lymph nodes was detected. The disease responded to arsenic and roentgen therapy only to recur. She had been under observation for two years. Discussing the case, Wile suggested the possibility that the condition was Spiegler-Fendt sarcoid. In a case reported by Templeton [36] as lymphoblastoma, there was some clinical evidence in favor of a diagnosis of Spiegler-Fendt sarcoid, and this disease could not be ruled out entirely from the evidence in the published record. It is interesting here to record that Perrin, according to MacCormac,[37] described, in 1886, a type of primary sarcoma of the skin that began with multiple foci, usually on the trunk, varying in number from thirty or forty up to several hundred. The tumors were situated in the dermis and were composed of round cells.

THE NAME OF THE DISORDER

Neither "Speigler-Fendt sarcoid" nor its corollary "sarcomatosis cutis (Spiegler)" are ideal names for this disease. The former is open to criticism because it brings to mind the other sarcoids, which are of entirely different pathologic nature. The latter name is objectionable because it groups the disease with the more malignant sarcomas. Whichever term is employed, it is suggested that a designation of one or the other of the two types described in this paper be appended: "Spiegler-Fendt sarcoid (localized form)" or "Spiegler-Fendt sarcoid (disseminated form)."

DIFFERENTIAL DIAGNOSIS

Localized Form.—The disease most frequently simulated by the localized form is sarcoid of Boeck. The clinical appearance may be almost identical. Changes in the bones and lungs and tuberculin anergy are characteristic of sarcoid of Boeck. In histopathology the two diseases are entirely different. Sarcoid of Boeck, moreover, does not show the rapid response to treatment by arsenic and roentgen rays which is so

32. Netherton, E. W.: A Case for Diagnosis (Hodgkin's Disease? Sternberg's Tuberculosis?), Arch. Dermat. & Syph. **23**:178 (Jan.) 1931.

33. Freund, H.: Miliary and Nodular Lymphocytoma of the Skin, Dermat. Wchnschr. **93**:1189 (July 25) 1931.

34. Zeisler, E. P., and Caro, M. R.: Lymphatic Leukemia of the Skin, Arch. Dermat. & Syph. **26**:522 (Sept.) 1932.

35. Cole, H. N., and Driver, J. R.: Lymphoblastoma-Lymphosarcoma? Arch. Dermat. & Syph. **25**:1151 (June) 1932.

36. Templeton, H. J.: Lymphoblastoma (Lymphosarcoma?), Arch Dermat. & Syph. **25**:726 (April) 1932.

37. MacCormac, H.: Primary Sarcoma of the Skin, Brit. J. Dermat. **41**:403 (Nov.) 1929.

characteristic of Spiegler-Fendt sarcoid. Lupus pernio is distinguished by the previous history of recurrent erythema, usually recurring in the winter, by the location, since the disease attacks the hands, feet and the pinna of the ear by preference, and by the histologic picture. Granuloma fungoides d'emblée may be difficult of differentiation when the lesions are in the formative stage. The clinical course of the disease, however, is considerably different, and the pathologic picture, with exceptions, is characteristic. A blood picture showing eosinophilia might be of diagnostic aid. Leukemia cutis could hardly be confused, unless the adenopathy was slight and the blood picture indecisive. The diseases are sometimes difficult to distinguish histologically. Lymphosarcoma is a gradually progressive, fatal disorder, not showing the same tendency to limitation of growth; enlargement of lymph nodes is an almost constant finding; the skin manifestations are nearly always secondary phenomena; internal metastases are frequent, and the pathologic picture shows a more uniform type of cell. According to Darier,[38] the sarcomas show young cells in homogeneous masses, which crowd out the normal tissues; in Spiegler-Fendt sarcoid, the cellular infiltrate invades the normal architecture of the cutis. Clinical resemblances to dermatitis medicamentosa, lymphangioma circumscriptum and epithelioma have been noted.

Disseminated Form.—Sarcoid of Darier-Roussy may be difficult to differentiate. The evolution of the lesions is slower, but in a fully developed case one might have to resort to the study of a histologic section, which would quickly decide the diagnosis. Lymphosarcoma, granuloma fungoides, leukemia cutis and lymphogranulomatosis, for reasons mentioned in regard to the localized form, can usually be eliminated, although atypical cases and mixed forms would defy either a sharp clinical or a pathologic differentiation. Neurofibromatosis and multiple lipomas might be confused with Spiegler-Fendt sarcoid.

SUMMARY AND CONCLUSIONS

1. Three cases are reported as examples of the disease known variously as "Spiegler-Fendt sarcoid" and "sarcomatosis cutis (Spiegler)." The histologic observations in a fourth case, the clinical aspects of which have been previously presented, are given in detail.

2. Of these cases, the lesions in three were localized and superficial, while in the fourth the nodules and plaques were deeply seated and disseminated.

38. Darier, J.: Die cutanen und subcutanen Sarkoide. Ihre Beziehungen zum Sarkom zur Lymphodermie, zur Tuberkulose u. s. w., Monatschr. f. prakt. Dermat. **50**:419, 1910.

3. In reviewing the literature, it was felt that the cases reported could be separated into the two groups mentioned.

4. The prognosis in the localized group appears to be excellent; in the disseminated variety it must be guarded.

5. The clinical picture is not distinctive (as in lichen planus), but its characteristics are such that, when observed, the disease should be at least considered in differential diagnosis.

6. The localized form is most likely to be confused clinically with sarcoid of Boeck; the disseminated variety bears a close clinical resemblance to Darier-Roussy sarcoid.

7. Clinical differentiation from granuloma fungoides d'emblée, lymphogranulomatosis, lymphosarcoma and the leukemias, when observed in an atypical form may be difficult.

8. The disease is considered a member of the group of lymphoblastomas.

9. Pathologic differentiation from the other diseases comprising the group of lymphoblastomas is usually possible. Because of the large number of atypical cases and transitional forms, it is probable that no sharp demarcation exists.

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ABSTRACT OF DISCUSSION

DR. ROBERT GILMAN, Philadelphia: Dr. Lewis has described two types of the Spiegler-Fendt sarcoid similar in histologic appearances but separated clinically by the degree and type of involvement. To regard the Spiegler-Fendt sarcoid as a member of the group of lymphoblastomas seems completely justified. Although in some instances the microscopic infiltrate suggests an isolated mycosis fungoides or a sarcomatosis cutis, clinically—particularly in Dr. Lewis' class 2—one is dealing with an entity possibly representing a local or limited or benign response to a common lymphoblastomatous cause, either neoplastic or inflammatory.

It is interesting that in two of Dr. Lewis' cases, case 1, in which the lesion was on the breast, and case 2, in which the lesion appeared on the thigh under the garter, it was possible to find that irritation played a part.

There are three points of particular interest with respect to this paper: first, that Dr. Lewis has been able to accumulate four new cases, all with histologic studies, three of which came under his personal observation; second, that he was able to distinguish between two clinical types, not only in his cases, but in practically all the cases he reviewed in his tables; third, that biopsy is necessary to establish a diagnosis. In the latter connection it is proper to concede that more histologic studies on isolated lesions may modify the present concept of this rarity. Further information is needed concerning the significance of the two classes which Dr. Lewis has established and as to whether or not the main practical difference is one of prognosis.

The fact that Dr. Lewis' case 4, the disseminated type, has apparently responded to treatment does not detract from the possibility of recurrence.

Perhaps further studies of the blood would shed light, and additional histologic studies of the involvement of the lymph nodes that occurred in about 25 per cent

of the cases would help to establish the lymphoblastomatous origin. Possibly, too, further studies along the line of roentgenologic examination of bone or biopsies on bone marrow would be in point.

Dr. Lewis has made a distinct contribution with his four complete case studies, and his recognition of the local and disseminated types may eventually lead to the solution of the etiologic problem, possibly to a revision of our nomenclature and to the clarification of knowledge of the group of lymphoblastomas in general.

Dr. George M. MacKee, New York: There is a difference of opinion as to whether this rare condition is lymphosarcoma or lymphoblastoma. For this reason we looked for more discussion. Satenstein, Lewis and I have carefully studied the material at our disposal, and while we have not been able to collect many cases, we have finally come to the conclusion that the disease is an entity belonging in the lymphogranuloma group.

The term "sarcoid" as applied to this condition is unfortunate, as it often leads to confusion with sarcoids of the tuberculous group. I understand that the term was coined by Spiegler or Fendt because of this controversy. They realized that it was not sarcoma, so they called it "sarcoid." I do not think that they regarded the condition as lymphogranuloma.

Dr. John Rauschkolb, Columbus, Ohio: My experience with solution of potassium arsenite, the official preparation, is that it is prone to deteriorate, so in using this solution, use it freshly prepared. If you do not get the best effect from the arsenic, perhaps you have used an old preparation.

Dr. George M. Lewis, New York: I am sorry that Dr. Satenstein is not here to speak of the histologic phase. I wish to take this opportunity of expressing my appreciation to him for studying the sections in the cases I reported.

Dr. Gilman kindly consented to open the discussion on very short notice, and I should like to thank him as well as Dr. MacKee and Dr. Rauschkolb for their pertinent suggestions and comments.

It would appear important to separate out cases when there is good evidence of a definite entity, and I think in the reported cases and in the ones that I have reviewed, there were clinical and histologic characteristics by which one could differentiate them from the general group of lymphoblastomas.

PITYRIASIS LICHENOIDES ET VARIOLIFORMIS ACUTA (HABERMANN)

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Pityriasis lichenoides et varioliformis acuta (Habermann) or parapsoriasis varioliformis (Wise) is a rare disease, first described by Mucha [1] of Vienna in 1916. This disease entity is characterized by a polymorphous and polychromatic eruption with four types of lesions: papules, scaly lesions not unlike pityriasis rosea, necrotic or hemorrhagic vesicles closely simulating varicella and depressed scars. The cutaneous manifestations are usually unaccompanied by constitutional or local symptoms and persist for from one month to two years.

The first case in the American literature was reported by Wise and Sulzberger,[2] in October 1930. Senear and Oliver [3] had previously reported three cases at the June 1930 meeting of the American Dermatological Society, but the reports did not appear in print until January 1931.

Since Mucha's first description of the disease, about sixty-four cases have been reported in the world literature. Gougerot and Burnier [4] reported a case and listed fifty-two others, but this summary did not include seven cases in Sirota's [5] compilation, and neither of the lists included the cases reported by Sibley,[6] Crawford [7] or Maschkilleison.[8]

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1. Mucha: Ueber der Parakeratosis variegata (Unna) beziehungsweise Pityriasis lichenoides chronica (Neisser Juliusberg) nahestehenden Fall, Arch. f. Dermat. u. Syph. **123**:586, 1916.

2. Wise, F., and Sulzberger, M. B.: Pityriasis Lichenoides et Varioliformis Acuta (Habermann), M. J. & Rec. **132**:331 (Oct. 1) 1930.

3. Senear, F. E., and Oliver, E. A.: Pityriasis Lichenoides et Varioliformis Acuta, Arch. Dermat. & Syph. **23**:12 (Jan.) 1931.

4. Gougerot and Burnier: Pityriasis lichenoides et varioliformis acuta, Bull. Soc. franç. de dermat. et syph. **39**:1349 (Nov.) 1932.

5. Sirota, L. S.: Experimental Contribution on Acute and Chronic Pityriasis Lichenoides, Urol. & Cutan. Rev. **37**:472 (July) 1933.

6. Sibley, W. K.: Pityriasis Lichenoides et Varioliformis Acuta, Brit. J. Dermat. **41**:123, 1929.

7. Crawford, S.: Pityriasis Lichenoides et Varioliformis Acuta, Arch. Dermat. & Syph. **26**:990 (Dec.) 1932.

8. Maschkilleison, L. N., and Posin, M. S.: Concerning the So-Called Parapsoriasis Acuta, Dermat. Wchnschr. **96**:605 (May 6) 1933.

The etiology of the condition remains a much debated question. Several cases seem to have followed closely on an infection of the upper respiratory tract, or to have been accompanied by adenitis, so that most dermatologists lean toward the theory of an infectious origin. The tuberculin tests as well as the Wassermann reactions of the blood have been positive in a small number of cases, but at present it is the consensus among most authorities that these occasional positive findings are not pathognomonic. Gougerot and Burnier [4] expressed the belief that the best explanation thus far is an allergic reaction to an infection.

Of interest in this connection is the experimental work of Sirota,[5] who obtained a complement-fixation reaction with auto-antigens and iso-antigens in guinea-pigs and in one human case; furthermore, a vaccine prepared from scales of the lesions produced good therapeutic results and led Sirota to conclude that pityriasis lichenoides et varioliformis acuta is an infectious disease. Since the disease heals spontaneously and equally good results have been obtained with other therapeutic agents (gold salts administered intravenously and ultraviolet rays), Sirota's deduction on the result of one case is not conclusive.

No mention of avitaminosis as an underlying factor is made in the literature. In our case the disease was accompanied by rickets, and several reported cases in the literature have been greatly improved under ultraviolet therapy.

The pathologic process is well described in the papers of Wise and Sulzberger,[2] Senear and Oliver,[3] Gross,[9] Diasio,[10] and Poehlmann,[11] who stated that the pathologic process of the disease closely resembled that of herpes zoster.

According to Satenstein,[12] the histologic picture may be summed up briefly as follows: Parakeratosis is a fairly constant feature, as are necrotic vesicles in the epidermis which contain coagulated blood, fluid or exfoliated epidermic cells or cells that have invaded the epidermis from below. The cells of the rete usually show disintegration; the nuclei are hyperchromatic, with the cytoplasm and cell membrane faintly visible. The entire epidermis shows extensive invasion by cells, mostly lymphocytes.

In the upper cutis, just below the epidermis and depending on the edema, may be found vesicles filled with red blood cells. In some places the sharp boundary between cutis and epidermis is completely oblit-

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9. Gross, P.: Pityriasis Lichenoides et Varioliformis Acuta, Arch. Dermat. & Syph. **23**:33 (Jan.) 1931.

10. Diasio, F. A.: Pityriasis Lichenoides et Varioliformis Acuta, Arch. Dermat & Syph. **24**:72 (July) 1931.

11. Poehlmann, A.: So-Called Pityriasis Lichenoides et Varioliformis Acuta, Dermat. Wchnschr. **94**:821 (June 11) 1932.

12. Satenstein, D. L.: Personal communication to the authors.

erated because of the infiltration by polymorphonuclear leukocytes and lymphocytes associated with an extensive interstitial edema.

The discussion as to whether this is a disease entity or a form of parapsoriasis is contained in the articles already mentioned.

Most instances of the disease occur in the ages between 13 and 26 years. In very young children it is exceedingly rare. Gross [9] cited Kumner's patient of 4 years of age, and Crawford [7] reported a case in a girl 22 months old.

The following case is reported because of the rarity of the disease at such an early age and on account of the typical cutaneous manifestations.

REPORT OF A CASE

History.—J. M., a white boy, 20 months old, first seen by us on Jan. 9, 1934, presented a rash on the body of two weeks' duration. The patient was a first child, born at full term by spontaneous delivery, and was breast fed. He was given orange juice, viosterol and increases in the diet as a routine procedure, except that no viosterol or cod liver oil was given during several periods of several months each. He walked at 11 months, and dentation occurred at the usual time. He had no illnesses except occasional colds. At 7 months of age he was vaccinated successfully. At 12 months of age he received three injections of diphtheria toxin-antitoxin. The family history revealed no exposure to tuberculosis or syphilis.

The present illness began on Dec. 26, 1933, with a rash, appearing first on the abdomen. There were no constitutional symptoms either in the two weeks previous to the appearance of the rash or concomitantly. There was no itching. On physical examination, on January 9, the patient presented a typical picture of moderately severe rickets with prominent frontal bosses, a mild rosary, Harrison's groove, a protuberant abdomen and umbilicus, knock knees and slight enlargement of the epiphyses of the wrist. Small shotty lymph nodes were palpable in the inguinal and cervical regions. The hair, eyes, ears and nose were normal. The teeth were normal. The tonsils were hypertrophied and slightly congested. The heart and lungs were normal. The liver and spleen were barely palpable.

Laboratory Data.—The urine was normal. Examination of the blood revealed: hemoglobin, 79 per cent (Sahli); red blood cells, 4,200,000; white blood cells, 8,680; polymorphonuclears, 48 per cent; lymphocytes, 42 per cent; large mononuclears, 8 per cent, and eosinophils, 2 per cent. The Wassermann reaction of the blood was negative. The tuberculin reaction was negative for 1:10,000, 1:1,000 and 1:100 dilutions of old tuberculin. Biopsy was not permitted.

The skin showed the eruption to be fairly profuse and generalized. It appeared on all the regions of the body with the exception of the scalp, palms, soles and mucous membranes.

On both sides of the face just distal to the lobes of the ear and symmetrically arranged was a patch the size of a half dollar composed of papules closely resembling lichen planus, some scaly fawn-colored maculopapular lesions resembling pityriasis rosea and an occasional vesicle that was capped with minute areas of hemorrhage and crusting.

Over the trunk and the upper and lower extremities the involvement was much more profuse. The lesions were both polymorphous and polychromatic with no predilection for extensor or flexor surfaces. The individual lesions were prin-

cipally brownish yellow, but there were many that were yellow while others were of a dark brown hue. The individual lesions were mainly papular and varied in size from that of a pinhead to that of a pea. Some were round, while others were oval, sharply defined and scaly. Scattered here and there, and standing out as a prominent feature, were isolated ruptured vesicular lesions covered by a crust, and pigmentary lesions and scars closely resembling involuted chickenpox.

Course.—During the past three months, the rash has shown definite improvement on several occasions, but has never entirely cleared up. On the whole, however, in spite of several new crops of lesions, the tendency has been toward improvement, so that at the last examination, on June 29, there were relatively few active lesions. It is to be noted that the rickets also improved markedly during the same period.

We have reported this case: first, because of its rarity; second, because of the age of the patient; third, because of the widespread distribution and the multiformity and variegated color of the skin lesions, and, finally, because of the marked symptoms of rickets that the child so definitely exhibited and which improved concomitantly with improvement in the skin lesions.

Obituaries

WILLIAM HEWSON MOOK, M.D.
1879-1934

Dr. William Hewson Mook was born in St. Louis on Feb. 25, 1879, and died suddenly of pneumonia on Nov. 3, 1934. He attended the public schools and graduated from the Central High School in 1897. In 1900 he received his degree of M.D. from the Beaumont Hospital Medical College, at present the medical department of St. Louis University. His graduation was followed by an internship in the St. Louis City Hospital in 1900 and 1901. After completing his internship, he became assistant superintendent of the St. Louis Quarantine Small Pox Hospital, a position which he held for two years. He studied in Europe during the next two years. Returning from abroad, he became intern and house physician in the New York Skin and Cancer Hospital. He returned to St. Louis in 1905 to become associated in the practice of dermatology and syphilology with Dr. Martin Engman, an association which continued to be happy, productive and unbroken to the day of his untimely death.

Dr. Mook was one of the founders of the Barnard Free Skin and Cancer Hospital and continued to be one of the most active members of its staff until his death. In August 1917 he was made first lieutenant in the medical corps of the United States Army and was immediately sent to France. In September 1917 he was promoted to a captaincy and put in charge of the dermatologic hospital in Paris, where he continued to discharge his duties and responsibilities until the A. E. F. left Europe. His services were rewarded by promotion to the rank of major on Nov. 11, 1918, and to the rank of lieutenant-colonel on May 2, 1919.

Dr. Mook contributed alone, or in collaboration with others, many important dermatologic studies. Among them may be mentioned the following: "Histopathology of Some Drug Eruptions" (1906, with Martin Engman), "Study of Epidermolysis Bullosa" (1906, with Martin Engman), "Quinine in the Treatment of Dermatitis Exfoliativa" (1908), "Dermatitis Exfoliativa Treated with Quinine" (1910), "Further Contribution to the Study of Elastic Tissue in Epidermolysis Bullosa" (1910, with Martin Engman), "Etiology of Epidermolysis Bullosa" (1910, with Martin Engman), "Pemphigoid Eruptions Following Vaccination" (1915), "Erythema Figuratum Perstans" (1917), "Camphor Oil Tumors" (1919, with W. G. Wander), "Myiasis Dermatosa" (1920), "Skin Reactions to Apothesine and Quinine in Susceptible Individuals (1920), "Treatment of Generalized Psoriasis" (1920), "Xanthoma and Hypercholesterinemia" (1923, with R. S. Weiss),

"Keloid of the Tongue" (1924), "Lupus Erythematosus (Pellagra): Two Instructive Cases" (1925, with R. S. Weiss), "Lupus Erythematosus Disseminatus" (1931, with R. S. Weiss and L. K. Bromberg) and "The Financing of Dermatologic Research." The last paper was delivered as the president's address at the meeting of the American Dermatological Association in Cuba in 1932.

At the time of his death Dr. Mook was associate clinical professor of dermatology, medical department of Washington University, St. Louis, and consultant in dermatology, United States Public Health Hospital (Veterans Hospital), St. Louis. He was a member of the American Medical Association, the Southern Medical Association, the Missouri State Medical Society and the St. Louis Medical Society. He was also a member and former president of the American Dermatological Association and of the Mississippi Valley Dermatological Association, an associate member of the Chicago Dermatological Society and a member of the Nu Sigma Nu fraternity.

Dr. Mook has made a place for himself in the hearts of all who knew him which can never be filled by another. His geniality, his friendliness, his loyalty and his keen sense of humor endeared him to all who had the good fortune to be numbered among his friends.

J. H. M.

Correspondence

AUSTRIAN DERMATOLOGICAL SOCIETY

To the Editor:—On May 17, 1934, there was held in Vienna the first general clinical session of the new Austrian Dermatological Society. Very appropriately the busts of Hebra, Kaposi and Riehl looked down on the assembly, which was honored by the presence of Hofrat Prof. Gustav Riehl, the only survivor of this great trio. The meeting was presided over by Professor Arzt, the president, and by Professor Kerl, the president-elect. Hofrat Prof. Finger was unable to attend.

The Austrian Dermatological Society is the successor of that oldest of dermatologic societies, the Vienna Dermatological Society. This society was formed by Hebra and his contemporaries and functioned until it became the nucleus of the present society in February 1934. The parent society was a member of the German Dermatological Society but seceded from it in order to form the new national Austrian society. This secession may be looked on, partly at least, as one sign of the nationalistic spirit abroad in Austria at present.

As the new society includes members from all of Austria, there were present representatives from many of the Austrian universities outside of Vienna, such as Innsbruck and Graz, and also from the nearby Balkan and other European countries. I was present as a corresponding member from the United States.

The afternoon and evening were devoted to the presentation and discussion of rare and interesting cases. As is usual in Vienna and Austria, there was a wealth of such material. Nearly one hundred cases were presented. Many instances of tuberculosis of the skin and mucous membranes of all types were seen. Among the rare dermatoses there were three cases of pityriasis lichenoides et varioliformis acuta of Habermann and likewise three instances of poikiloderma atrophicans vasculare of Jacobi. Four cases of adenoma sebaceum, two occurring in a father and child, were seen. Two of these patients presented the papular hyperplasia of the gingivae which is sometimes seen in this disorder. As another example of hereditary transmission of a dermatologic disorder there were seen a mother and child with keratosis follicularis of Darier, and also a woman and her niece with cylindroma of the scalp. Two cases of prurigo lymphatica illustrated the papular leukemids of Audry in lymphatic leukemia. Similar to these was a case of erythema multiforme occurring in a patient with Hodgkin's disease. Blood cultures yielding gonococci proved the gonorrheal nature of macular exanthems in two cases of acute gonorrhea and gonorrheal arthritis. Of great interest also were instances of granulosis rubra nasi, thallium alopecia (suicidal), pemphigus vulgaris in a young child, hydroa aestivale, cancer en cuirasse, juxta-articular nodes and rhinoscleroma.

From the experimental standpoint, three patients with sclerodactylia showed blood calcium readings of from 16 to 26 mg. per hundred cubic centimeters. Extremely interesting was the demonstration in rabbits of various stages of paralysis resulting from the subdural injection of blood serum from patients with pemphigus vulgaris. The resulting disease in rabbits can be transmitted from animal to animal. The workers believe that pemphigus vulgaris is caused by a filtrable virus. As fluid from the vesicles of dermatitis herpetiformis produces the same changes clinically and microscopically in rabbits, the workers feel strengthened in the belief held by the Vienna school that this disease and pemphigus are but variants of the same basic process.

After the clinical session a banquet was held during which the well known Austrian *Gemütlichkeit* was well demonstrated.

H. J. Templeton, M.D., Oakland, Calif.

News and Comment

ATLANTIC CITY SESSION OF THE AMERICAN MEDICAL ASSOCIATION

The Section on Dermatology and Syphilology of the American Medical Association has appointed the following section exhibit committee for the scientific exhibit at the Atlantic City session of the American Medical Association and the Canadian Medical Association: Fred D. Weidman, Philadelphia, chairman; Clark W. Finnerud, Chicago; Robert L. Gilman, Philadelphia; William O. Roop, Atlantic City, N. J., and J. F. Burgess, Montreal, Canada. Application for space must be made by Feb. 25, 1935. Application blanks may be obtained from any of the members of the Committee or from the Director, Scientific Exhibit, 535 North Dearborn Street, Chicago.

Abstracts from Current Literature

CARCINOMA OF THE TONGUE. MAURICE LENZ and EDITH E. SPROUL, Am. J. Surg. **25**:102 (July) 1934.

Lenz and Sproul report a case of carcinoma of the tongue with generalized metastases. The observations at autopsy suggested two possibilities: Either the lesion of the tongue metastasized widely or there were coexistent carcinomas of the tongue and of the bronchus, the latter giving rise to extensive metastases. The second possibility is supported by the rarity of generalized metastases from cancer of the tongue and by the frequency of this occurrence in cases of cancer of the bronchus. Again, particles from the lesion of the tongue may have been aspirated into the bronchus and may have given rise to secondary growth there. If the latter view is accepted the case is of some practical importance, for the secondary growths appeared after implantation of radium into the tongue, and the question arises: Was the trauma from the implantation in any way responsible for the metastases? This point of view is one that is not usually considered, and as Lenz and Sproul say, the question will remain hypothetic until clinical support in the form of additional reports of similar occurrences is available.

RATTNER, Chicago.

A PRELIMINARY REPORT OF ANOTHER DIAGNOSTIC SIGN. J. B. BIEDERMAN, Am. J. Syph. & Neurol. **18**:306 (July) 1934.

In the examination of the throats of a large number of patients with so-called "latent syphilis" Biederman frequently observed a change from the normal in the appearance of the anterior pillars of the tonsils. This change was apparently due to an alteration in color in which the pillars assumed a dark, dusky red color in a well defined congested area. The areas began at the base of the pillars, extended from 0.5 to 2.5 cm. upward and were approximately from 6 to 10 mm. in breadth. The appearance of the areas resembled that of a definite vascular congestion. One must not confuse this sign with the secondary erythema of syphilis which may be localized only on the anterior pillars or be present on any other portion of the mucous membrane.

The sign was present in 69.1 per cent of a series of 469 syphilitic patients. It was proved that of 296 patients with a faucial sign 51 per cent were syphilitic. The sign in the throat may be associated with conditions other than syphilis, such as repeated attacks of tonsillitis or infected tonsils, cardiovascular disorders and various other pathologic conditions. In fully 78 per cent of the patients with this sign in the throat a diagnosis of syphilis, of acute tonsillar involvement at the time of the examination or of frequent tonsillar involvement in the past could be made.

THE VALUE OF EARLY LUMBAR PUNCTURE IN THE PROGNOSIS OF CENTRAL NERVOUS SYSTEM SYPHILIS. M. A. SCHNITKER, Am. J. Syph. & Neurol. **18**:360 (July) 1934.

This study was undertaken because of the prevalent opinion that a patient exhibiting a relatively normal spinal fluid in the first two years of a syphilitic infection is said to have a good prognosis as far as a future damage to the central nervous system is concerned, whereas marked changes in the spinal fluid early in the disease supposedly forecast tabes or dementia paralytica, syphilitic meningitis being an exception.

Nineteen patients who were observed for from five to nineteen and one-half years were available for this study of the spinal fluid in determining the prognosis

of complications in the nervous system. In 12 of the 19 cases the first spinal fluid taken was normal, and the last examination, averaging eleven and one-fourth years later, revealed no evidence of neurosyphilis. Twelve cases, however, are too few to allow one to conclude that if the spinal fluid is normal in early stages of the disease the chances are that syphilis of the central nervous system will not develop. On the other hand, in 4 cases in which the spinal fluid showed a strongly positive reaction after the early stage of the disease it became normal without continued treatment. Also there was no clinical evidence of neurosyphilis in any of these four cases. In two other cases (one of syphilitic meningitis excluded) in which the spinal fluid showed a positive reaction in the first year of the disease, no abnormality of the spinal fluid or of the central nervous system could be observed five years later. These cases seem to justify the statement that a strongly positive spinal fluid reaction of the early syphilis is not necessarily followed by tabes or dementia paralytica. Therefore, the first examination is of little value in determining the prognosis from the standpoint of neurosyphilis.

In the entire group studied the outcome was favorable whether at first the spinal fluid was normal or distinctly abnormal. Schnitker does not wish to infer that treatment need not be given after the fourth or fifth year of the disease. One cannot say at the time of the last examination of any patient whether changes in the central nervous system will develop in the future.

REUTER, Milwaukee.

THE CLINICAL VALUE OF THE PRESUMPTIVE KAHN TEST. TOMAS CAJIGAS, Ann. Int. Med. **7**:114 (July) 1933.

Cajigas advocates the use of the presumptive Kahn test as a further check for the routine Wassermann and Kahn tests. He is of the opinion that the presumptive test is 8.2 per cent more sensitive than the Wassermann test and 5.5 per cent more sensitive than the standard Kahn test. Because of the high sensitivity of the presumptive test, a negative reaction is of more value than a similar reaction obtained by a less sensitive method. The author believes that the presumptive test is of special value in primary syphilis, latent syphilis and neurosyphilis and in determining when to discontinue treatment.

READING, Galveston, Texas. [AM. J. DIS. CHILD.]

THE CAUSE OF BAKERS' ECZEMA. ERNA ZITZKE, J. Indust. Hyg. **16**:218 (July) 1934.

According to the statistics of Teleky, between 1921 and 1932 the incidence of bakers' eczema increased to two and one-half times the former figure for all Germany. This increase in cases terminating for the first time in incapacity coincided in time and place with the introduction of preparations to improve the flours used. The chemicals used for this purpose are ammonium persulphate, calcium phosphate and potassium bromate. Of 149 persons with bakers' eczema studied, 41.8 per cent showed positive reactions to flours not chemically treated, but 67.2 per cent showed a positive reaction to chemically treated flours. Fifty-eight per cent of the entire group showed positive reactions to subcutaneous tests with treated flour or to patch tests with ammonium persulphate. All the patch tests with potassium bromate and calcium phosphate gave negative results. Zitzke concludes that the primary injurious substance in treated flour is ammonium persulphate, which leads to a hypersensitivity rarely caused by exposure to the albumin of pure flour alone. Whether the chemicals alone produce the hypersensitivity or whether under their influence a change takes place which raises the allergic quality of the albumin the author is not prepared to state. Only 2 patients exhibited hypersensitivity to pure flour alone, but, on the other hand, there also exist cases of hypersensitivity to pure ammonium and potassium persulphate. Desensitization took place from six to twelve months after contact was stopped.

WIEDER, Milwaukee.

THE SPECIFICITY OF THE KAHN TEST IN MALARIA. C. R. SMITH, J. Lab. & Clin. Med. **18**:396 (Jan.) 1933.

It has been reported that a Wassermann test is not reliable in cases of acute malaria. Smith studied 194 patients who were acutely ill with malaria and found that 56 showed a positive Kahn reaction. These 56 still showed a positive reaction after the malaria had cleared up. He concluded that the Kahn test is reliable, even though the patient has acute malaria.

A CLINICAL AND STATISTICAL EVALUATION OF A NEW FLOCCULATION TEST FOR SYPHILIS: BASED ON 26,611 TESTS IN COMPARISON WITH THE WASSERMANN REACTION, AND 2,473 IN COMPARISON WITH THE KAHN. H. EAGLE, J. Lab. & Clin. Med. **18**:684 (April) 1933.

In Eagle's experience this test has proved more sensitive than either the Wassermann or the Kahn test. He detected 75 per cent of 10,383 known syphilitic serums, as compared with 58.7 and 60.2 per cent detected by the Wassermann and Kahn tests. Also, this test shows less doubtful reactions—0.7 per cent, as compared with 1.4 per cent for the Wassermann and Kahn tests. The incidence of false positive reactions was lower than with the Wassermann or the Kahn test. A complete account of the technic and interpretation of the test is given.

AN EVALUATION OF THREE METHODS FOR THE DEMONSTRATION OF TUBERCLE BACILLI FOR USE IN HOSPITAL ROUTINE. N. HIRSCHBERG, J. Lab. & Clin. Med. **19**:429 (Jan.) 1934.

Hirschberg studied 69 specimens by direct smear, inoculation of guinea-pigs and culture methods. By culture 24.6 per cent gave positive results, by direct smear 10.1 per cent and by inoculation of guinea-pigs 15.9 per cent. In one instance only inoculation of guinea-pigs gave positive results. In all other cases in which the results of inoculation were positive culture also gave positive results. The culture mediums recommended for routine use in hospitals are Corper's, Hohn's and Miraglia's. The latter two give more positive results than Corper's, but Corper's medium is less likely to become contaminated, and for this reason it should be used as a routine along with either Hohn's or Miraglia's medium.

MCMURRAY, Galveston, Texas. [AM. J. DIS. CHILD.]

THE SO-CALLED "PRIMARY COMPLEX" OF TUBERCULOSIS OF THE SKIN. E. BRUUSGAARD, Brit. J. Dermat. **46**:113 (March) 1934.

A general review of the subject of the "primary complex," together with detailed reports of 3 cases in children showing the tuberculous primary complex in the skin, is given. Four photographs illustrating the cases are presented.

"The characteristic feature of infection occurring in a previously tubercle-free organism is the so-called 'primary complex,' consisting of a primary tuberculous sore *plus* a definite and often very pronounced swelling of the regional glands. The spreading of the bacilli to the regional glands is frequently shown by a clearly marked lymphangitis. The dominating feature of this symptom-complex is the great swelling of the glands, of acute onset, with caseation. The primary sore, on the other hand, may be of comparative insignificance."

THE INFECTION-ALLERGIC COMPLEX IN ARSPHENAMIN DERMATITIC REACTIONS, WITH SPECIAL REFERENCE TO DERMATOPHYTOSIS. J. H. STOKES and G. V. KULCHAR, Brit. J. Dermat. **46**:134 (March) 1934.

Stokes and Kulchar say: "As with most dermatitic reactions, there is reason to suspect that the ætiologic background of arsphenamin exfoliative dermatitis is a complex one, involving elements of specific drug injury not only to the skin, but to other organs with which the skin has metabolic linkage (liver); elements of true specific allergic sensitivity; of general allergic reactivity (atopic state); of

contributory or induced sensitivity dependent on bacterial or other noxæ from foci within the body; and the same elements from foci upon the skin itself, or applied to it in the form of non-specific irritants."

The literature of this complex conception is briefly summarized, and the cases are analyzed and grouped under explanatory headings. The authors conclude with the following summary:

"(1) The literature on the subject of arsphenamin dermatitis evidences a growing appreciation of the rôle of infections, local, focal and general, in the complex causal background of this condition.

"(2) A part of the influence of infection is probably exerted through the allergic mechanism of arsphenamin sensitization, and involves the conception of multiple balanced and summation effects. . . .

"(3) When the infection involves the skin, and also in antecedent and induced dermatitis from other causes, the local dermatitic focus acts as the excitant to a general flare-up following arsenical medication, through the vasodilation mechanism suggested by Auer, by Schlossberger and by Almaric.

"(4) Dermatophytic infections may apparently act as participants in a 'balanced' or a 'summation' allergic complex involving an arsenical extending the range and increasing the severity of the allergic dermatitic response to the drug (Bloch, tricophytin).

"(5) A dermatophytic focus may also conceivably serve, through the induction of local vasodilation, as the starting point of an 'arsenical' dermatitis.

"(6) Minute amounts of arsphenamin in arsphenamin-sensitive persons may flare up and tend to generalize a local, apparently mycotic dermatitis.

"(7) The interaction of a drug and infection allergy is, perhaps, reversible, and may in some cases take the course of Milian's 'activation' of the infection focus, with an exanthem of the toxic erythema type and a flare-up of the local focus in the case of bacterial infections, or an exacerbation of the localized dermatomycotic process and a 'mycotid' in the case of a fungus infection.

"(8) Clinical cases illustrative of these possibilities and of the interplay of multiple allergic susceptibilities and infection in the background of dermatitis (including the arsenical type) are presented. The last case described apparently combines explosive dermatitic response to an arsenical, to bismuth, to goose feathers, to a mycotic infection and to bacterial protein (Coley's serum) in observations extending over four years.

"(9) In dealing with arsphenamin dermatitis with focal infective lesions, mycotic or bacterial, treatment should be directed, albeit with caution, at the focal as well as the general process."

KERATODERMIA CLIMACTERIUM. H. HAXTHAUSEN, Brit. J. Dermat. **46**:161 (April) 1934.

A series of 10 cases form the basis for this investigation. They presented a distinct clinical picture consisting of circumscribed hyperkeratosis, mainly of the palms and soles, occurring in women in association with the climacteric and accompanied by various general signs and symptoms, especially obesity and arterial hypertension. The course of the cutaneous changes is at first symptomless. Less frequently arthritis of the knee joints is present. The author thinks that the cutaneous condition and the other symptoms may be a sequela of an endocrine disturbance associated with the menopause. Treatment was disappointing. One photograph accompanies the article.

PILI ANNULATI OCCURRING AS A FAMILY DISORDER. ARNE REYN, Brit. J. Dermat. **46**:168 (April) 1934.

Eight cases of pili annulati are described appearing among four generations in one family. A review of the literature revealed 20 cases recorded up to 1921.

Other reports of familial incidence of the condition are reviewed. Reyn believes that the condition is more frequent than the reports in the literature indicate and concludes his article with the statement: "With reference to differential diagnosis there are only a few conditions to be taken into account, foremost of which is monilethrix, as this on cursory consideration may be confounded with pili annulati." A photograph accompanies the article.

RECURRENCES OF PITYRIASIS ROSEA: REPORT OF TWO CASES. A. SAYER, Brit. J. Dermat. **46**:181 (April) 1934.

The literature is briefly reviewed, and 2 additional cases of recurrent attacks of pityriasis rosea are reported. The cases occurred in the United States in white women, aged 24 and 18, respectively. Attention is called to the necessity of distinguishing between a recurrence (a second attack) of pityriasis rosea and a recrudescence (a flare-up of the original eruption) of this disease.

WIEN, Chicago.

CONTRIBUTION TO THE STUDY OF SOUTH AMERICAN BLASTOMYCOSIS. G. BERTACCINI, Gior. ital. di dermat. e sif. **75**:783 (April) 1934.

Bertaccini reports a case of blastomycosis of two years' duration. The patient had contracted the disease in Brazil in 1929, the initial manifestation being an ulcer of the lower lip, which gradually spread to the gum, the mucous surface of the cheek and the palate. On the cutaneous side it spread down to the chin. In 1931 the lesions were treated by electrocoagulation with little success. No fungi were found in the secretions from the ulcers. A few weeks later the glands of the neck became enlarged and numerous round, double-contoured bodies were demonstrated in the pus aspirated from these glands. Inoculations with this pus reproduced the disease in rabbits, in the form of multiple abscesses. The patient died about a year later. The necropsy showed that the infection had destroyed the ascending branch of the lower jaw. There were also destructive pharyngolaryngitis, suppurative mastoiditis and a cerebellar abscess. The offending organisms were found in all these lesions. The histologic sections presented the usual characteristics of this type of case, with numerous giant cells filled with the organisms. Cultures were difficult to obtain. Of four hundred tubes planted, growth resulted in only five. The fungus was a new species of the genus "Scopulariopsis," classified by Redaeli under the name of "Scopulariopsis Bertaccini."

CUTANEOUS ENDOTHELIOMA WITH SYSTEMIC MANIFESTATIONS. FRANCO FLARER, Gior. ital. di dermat. e sif. **75**:829 (April) 1934.

A girl aged 16 had cutaneous manifestations consisting of a rounded red tumor of the pubic region, of one and a half years' duration, and yellowish-red follicular infiltrations resembling the papules of lichen planus on the thorax. Urinalysis and the Wassermann and tuberculin tests gave negative results. The lymphatic glands, liver and spleen were moderately enlarged, and there was slight anemia. Blood smears showed the presence of abundant mononucleated cells. The histopathologic examination of both types of cutaneous lesions revealed the picture of a neoplasm invading the corium and composed of endothelial and lymphoid cells with many newly formed capillaries. Sections of the lymphatic glands showed the same structure. Flarer concludes that the lesions were a neoplastic formation with systemic invasion, arising from the reticulo-endothelial apparatus.

THE REID-HUNT AND ASCHHEIM-ZONDEK ENDOCRINE TESTS IN DERMATOLOGY. FRANCESCO LISI, Gior. ital. di dermat. e sif. **75**:903 (April) 1934.

Reid-Hunt demonstrated that white moles fed thyroid extract showed increased resistance to the ingestion of certain poisons, such as acetonitrile. The same result was obtained by feeding these animals the blood of patients with exophthalmic

goiter, but the ingestion of normal blood remained without effect. The blood of animals from which the thyroid gland had been removed diminished the resistance of the white moles to the poison. Lisi performed these tests in 9 cases of acne vulgaris and obtained positive reactions in 5 cases. The animals fed the blood of these five patients remained alive after being inoculated with letal doses of acetonitrile. In a case of acne necrotica also the test was positive. Of 2 patients with rosacea, 1 gave a negative and the other a positive reaction. The results were negative in 4 cases of vitiligo and positive in a case of psoriasis in a woman with obvious clinical signs of hyperthyroidism. Of 2 patients with eczema, 1 gave a strongly positive and the other a negative reaction. In a case of pemphigus the result was strongly positive. Lisi concludes that the Reid-Hunt test is a valuable adjunct to the investigation of the function of the thyroid gland. The Aschheim-Zondek test, used primarily for the diagnosis of pregnancy, was also made by him in cases of a number of dermatoses, theelin and the anterior pituitary-like principle obtained from the urine of pregnant women being isolated from concentrated urine of these patients. A patient with acrocyanosis supramalleolaris with erythema induratum, 2 patients with pruritus vulvae and 5 patients with eczema were examined. The results were discordant, some being positive and some negative. The technic used by Lisi in all his research is given in detail.

TAR MELANODERMA. A. SCARPA, Gior. ital. di dermat. e sif. **75**:929 (April) 1934.

Scarpa summarizes the conditions known as tar melanoses, making special mention of Riehl's melanosis and of melano-dermatitis lichenoides chronica of Hoffmann. He reports 3 cases of this brown-violaceous cutaneous discoloration with a reticular distribution over the uncovered parts in patients who worked in an atmosphere laden with vapors from the melting of certain fossil tars. He calls attention to the necessity of instituting prophylactic measures in trades or manufactures in which tar is used.

A CASE OF LICHEN VIDAL RESEMBLING FOX-FORDYCE'S DISEASE. G. ROBBA, Gior. ital. di dermat. e sif. **75**:951 (April) 1934.

A middle-aged woman had a dermatosis of six years' duration located in both axillae and in the mammary areola. The lesions were round, prominent, lichenoid papules, and there was extreme itching. The hair had disappeared. Clinically the differential diagnosis between Fox-Fordyce's disease and lichen simplex chronicus was impossible. The histopathologic observations proved the condition to be lichen simplex. Robba expands on the subject of the endocrine origin of the condition and concludes that lichen simplex chronicus Vidal and Fox-Fordyce's disease are varieties of the same clinical entity, the apocrine glands being the seat of the major changes in Fox-Fordyce's disease.

HYPERSENSITIVITY TO PHENOLPHTHALEIN. D. KENEDY, Gior. ital. di dermat. e sif. **75**:965 (April) 1934.

Phenolphthalein was administered repeatedly to 2 test persons, and intradermal injections of serum from a hypersensitive patient were given a few hours later. An intradermal injection of serum from a normal person was given as a control. Twenty-four hours later the site of the injection of the serum of the hypersensitive patient was red and swollen; the site of the other injection was normal except for the trauma at the point punctured by the needle. The same test carried out in a person who had not ingested phenolphthalein gave entirely negative results. According to Kenedy, this method gives more positive reactions than the Praussnitz-Küstner test.

COMPARATIVE STUDY OF THE NEW COLOR REACTION OF HECHT. M. BRONZINI, Gior. ital. di dermat. e sif. **75**:969 (April) 1934.

A new technic by means of which the colloidal precipitate appears colored and therefore easier to read has been evolved by Hecht. The dyes that have been used are Victoria blue, methylene blue and naphthol green. Bronzini performed this test on nearly 1,000 serums and concluded that it is slightly more sensitive than the Müller conglobation reaction and is more easily interpreted and more easily performed.

PARDO-CASTELLO, Havana, Cuba.

ABILITY OF SALVES TO PROTECT THE SKIN FROM LIGHT. ERWIN RAABE, Dermat. Wchnschr. **98**:129 (Feb. 3) 1934.

Raabe attempted to compare the relative values of several proprietary preparations designed to protect the skin from sunlight. He found that all the products tested protected the skin to a considerable extent, but it was not possible to make any comparisons of their protective value.

MILKERS' NODES. B. J. POMUSS, Dermat. Wchnschr. **98**:134 (Feb. 3) 1934.

In the two years preceding the report 81 patients with milkers' nodes were seen. These were for the most part milkmaids who worked in eleven different dairies in Leningrad. The clinical features are reviewed briefly, and the results of the histologic study of 20 biopsy specimens secured in various stages of the disease are presented. The condition does not occur during the winter. In several instances undoubted transfer from one person to another was observed. All the milkmaids had been previously vaccinated, many of them shortly before starting work. Some of the patients were successfully vaccinated after the nodes had disappeared. Verrucous lesions were seen only in 3 instances, and no case of a vesicular form occurred in this series. Pomuss concludes that the condition is a disease entity and not in any sense a modified cowpox.

TREATMENT OF AN UNUSUAL ERYTHEMA MULTIFORME-LIKE ERUPTION WITH ARSPHENAMINE AND BLOOD TRANSFUSIONS. G. SCHERBER, Dermat. Wchnschr. **98**:173 (Feb. 10) 1934.

In a man aged 25 there developed a severe papulobullous and purpuric eruption with a rise of temperature that occurred every two days. Various forms of chemical therapy were attempted with no benefit. A blood transfusion led to a prompt remission, and a milder recurrence three weeks later also responded well to another transfusion. A preparation of arsphenamine was given at the same time.

A PROFESSIONAL DERMATITIS CAUSED BY THE RESIN PROPOLIS FROM THE BEE. G. I. UMANSKY, Dermat. Wchnschr. **98**:177 (Feb. 10) 1934.

Propolis is the gluelike substance produced by bees to cement the various portions of the hive. A patient is described in whom dermatitis venenata developed each time he handled beehives. This sensitiveness developed after he had worked in apiaries for five years. The causative factor was demonstrated by means of patch tests.

VARYING COURSE OF FAMILIAL SYPHILIS. (SYPHILIS MALIGNA: SYPHILIS D'EMBLÉE?). K. SCHREINER, Dermat. Wchnschr. **98**:180 (Feb. 10) 1934.

A family is described in which the mother was apparently infected by a foster child who had congenital syphilis. Her disease ran the usual course of untreated syphilis. In 2 daughters, aged 12 and 20 years, there developed pustular ulcerative syphilids. A third daughter, aged 10 years, and the husband were not apparently infected (clinical and serologic tests gave negative results).

CAPILLARY MICROSCOPE STUDIES: III. HEREDITARY PROGRESSIVE TELANGIECTASIA. S. BOMMER, Dermat. Wchnschr. **98**:201 (Feb. 17) 1934.

Bommer observed a woman aged 41 who had hereditary progressive telangiectasia. Two daughters, aged 18 and 21, showed the same condition. The capillary microscope revealed abnormal visibility of the subpapillary plexus, aneurysm-like enlargements of the subpapillary vessels and other abnormalities. The changes were found in all the areas studied except on the mucous membranes. In the course of eight months on a modified Sauerbruch-Hermannsdorfer diet the condition improved considerably.

IS ROENTGEN TREATMENT OF LUPUS VULGARIS JUSTIFIABLE? FRANZ KOCH and OTTO BIRKENMAIER, Dermat. Wchnschr. **98**:210 (Feb. 17) 1934.

The authors discuss the advantages and disadvantages of various forms of treatment for lupus vulgaris. They conclude that roentgen therapy in the hands of a properly qualified person is one of the most satisfactory treatments for this condition.

ULCERS OF THE STOMACH IN LEPROSY. A. PALDROCK, Dermat. Wchnschr. **98**: 241 (Feb. 24) 1934.

A postmortem examination of a patient with leprosy revealed ulcers of the stomach. Histologic examination failed to indicate that these lesions were of leprous origin.

SYMMETRICALLY ARRANGED MULTIPLE FIBROMAS OVER THE SMALL JOINTS. J. WENDLBERGER, Dermat. Wchnschr. **98**:257 (March 3) 1934.

A man aged 47 presented a number of pea-sized nodules over the elbows and joints of the fingers. They had started two years before and had grown slowly. One was excised for histologic examination. It showed the picture of a hard fibroma in the cutis without a true capsule but sharply limited. It differed in several respects from the growths in other rather similar cases that have been previously described. There was nothing to suggest a possible pathogenesis.

A VARIETY OF MOLLUSCUM CONTAGIOSUM NOT PREVIOUSLY REPORTED (MOLLUSCUM CONTAGIOSUM CORNOIDES). ROBERTO CASAZZA, Dermat. Wchnschr. **98**:260 (March 3) 1934.

Three horny lesions developed on the inner surface of the prepuce of a soldier aged 20. These lesions had been present for about four months when the patient was seen. There were also several typical lesions of molluscum in the adjacent regions. Histologic examination showed that the horny plug was formed of lamellated keratin and that the base was typical of molluscum contagiosum.

A CASE OF ZOSTER GENERALISATUS IN NEUROSYPHILIS AND PULMONARY TUBERCULOSIS. GEORG ENSBRUNER, Dermat. Wchnschr. **98**:301 (March 10) 1934.

A man, aged 58, presented gangrenous herpes zoster with a generalized varicelliform eruption. A subsequent examination showed the presence of active tuberculosis of the lungs and symptomless neurosyphilis.

INJURY OF THE BUCCAL MUCOSA BY ELECTROLYSIS. THEODOR ZALOFF GANOWSKY, Dermat. Wchnschr. **98**:306 (March 10) 1934.

Granowsky reports briefly three cases in which an electrolytic action between gold and amalgam fillings caused lesions of the gum and buccal mucosa. In addition he observed eight musicians in whom a similar lesion occurred owing to

the action between the brass or nickel mouthpiece of the instrument and amalgam fillings of the teeth. In a third group a similar phenomenon was due to objects held in the mouth in the course of work, such as hairpins used by a hairdresser and pins by a dressmaker.

CUTANEOUS CHANGES ASSOCIATED WITH TUBEROUS SCLEROSIS AND THEIR PATHOGENIC IMPORTANCE. LUDWIG KURTZ, Dermat. Wchnschr. **98**:357 (March 24) 1934.

Tuberous sclerosis consists of sharply circumscribed nodular lesions in the cortex and lateral ventricles of the brain. The condition may not cause symptoms during life, but it is often associated with epilepsy. In addition, adenoma sebaceum and fibromatous changes of the gums, nail beds and lumbosacral region may occur. Two cases are described. In one epileptic seizures were associated with an eruption resembling adenoma sebaceum on the nose and with fibromas of the nail beds and of the gums. In the other, epileptic seizures, typical adenoma sebaceum and fibromatous changes of the lumbosacral region occurred along with mental changes. The symptoms in these cases are considered sufficient to make a probable diagnosis of tuberous sclerosis.

THE HISTOLOGY OF CERTAIN RARE NEVI. ANTON MUSGER, Dermat. Wchnschr. **98**:385 (March 31) 1934.

Two quite different and unusual forms of nevi were studied microscopically. One was an extensive nevus covering a considerable portion of both sides of the body. It was characterized by marked hyperkeratosis, dyskeratosis and the absence of pigment cells in the basal layer. The second was a nodular lesion in the scapular region. Microscopically the changes consisted chiefly in an increase in the collagen in the middle and deep layers of the cutis.

DETERMINATIONS OF FUNCTION OF ENDOCRINE GLANDS BY MEANS OF CUTANEOUS REACTIONS. T. CHORAZEK and K. ZISCH, Dermat. Wchnschr. **98**:390 (March 31) 1934.

Chorazek and Zisch administered intracutaneous injections of an extract of eight different glands of internal secretion, allowing four days between each test, to 6 patients with various dermatologic and genito-urinary conditions.

Seven patients showed positive reactions as follows: A patient with urticaria reacted to parathyroid extract; one with eczema chronica and diabetes, to thyroid and pituitary extracts; one with eczema chronica and goiter and one with varicose ulcers and goiter, to thyroid extract; one with lupus vulgaris and one with xeroderma pigmentosum, to the extract from the graafian follicles, and one with pemphigus and exophthalmic goiter to parathyroid and thyroid extracts.

Seven patients with apparent glandular dystrophies showed no reactions.

A CASE OF DERMATITIS HERPETIFORMIS. ESBERN LOMHOLT, Dermat. Wchnschr. **98**:394 (March 31) 1934.

A patient who had a severe, extensive polymorphic eruption was observed. There were periods of remission and of exacerbation extending over ten years. Severe pruritus, sensitiveness to iodide and other features were suggestive of dermatitis herpetiformis. Lomholt points out, however, that the differentiation between this condition and other manifestations of pemphigus could not be made with certainty. A footnote records the fatal termination of the condition.

THE EFFECT OF SODIUM THIOSULPHATE ON THE ORGANISM OF LEPROSY. A. PALDROCK and A. POOMAN, Dermat. Wchnschr. **98**:417 (April 7) 1934.

Smears of leprosy bacilli soaked in 10 per cent sodium thiosulphate were found to be gram-negative after about twenty-four hours. Furthermore, smears from

freshly excised lepromas placed in the same solution for twelve hours showed gram-negative organisms. These observations have encouraged the authors to treat leprosy with sodium thiosulphate. The results will be reported later.

STATISTICS FOR CANCER IN THE DERMATOLOGIC CLINIC IN ZÜRICH. G. MIESCHER, Dermat. Wchnschr. **98**:420 (April 7) 1934.

Miescher presents a statistical study of the 530 patients with malignant conditions of the skin seen in the clinic in Zürich from 1920 to 1932. Ninety-five per cent were cured. Women predominated in all the classifications.

THE INFLUENCE OF SERUM FROM LUPUS LESIONS ON THE COURSE OF THE TUBERCULIN REACTION. KLEMENS KAUCZYŃSKI, Dermat. Wchnschr. **98**: 457 (April 14) 1934.

Serum was obtained from a lupus lesion by means of a bulla produced by carbon dioxide snow. The serum was added to the tuberculin which was injected intracutaneously into 36 patients with lupus vulgaris. In most instances the reaction was the same as when tuberculin alone was used. Serum from the blood of a patient with lupus vulgaris and no evidence of pulmonary or other organic tuberculosis was added to tuberculin, and the same patients were tested. The reaction was increased in a great majority of instances.

FURTHER IN VIVO EXPERIMENTS ON THE RESISTANCE OF THE VIRUS OF HERPES. H. HRSUZEK, Dermat. Wchnschr. **98**:485 (April 21) 1934.

The application of 5 per cent tincture of iodine, 70 per cent alcohol or an emulsion of soap to a scarified area before the application of the virus-containing material prevented the development of herpes. If these substances were used to wash the area after inoculation they did not prevent a positive reaction. Scarification through virus that had been allowed to dry on the skin for twenty-four hours failed to produce a positive reaction.

PIGMENTATIO RACEMOSA. ANDREAS KOLB and TIBOR WLASSICS, Dermat. Wchnschr. **98**:494 (April 21) 1934.

In the winter of 1931-1932, 31 cases of pigmentatio racemosa were observed. In each of these cases exposure to heat was the apparent causative factor.

ECZEMA FROM GRENADILLA WOOD. ERNST SCHRÖPL, Dermat. Wchnschr. **98**: 498 (April 21) 1934.

A man who worked in a musical instrument factory showed a dermatitis of the exposed portions of the skin. It was found by patch tests that he was sensitive to grenadilla wood, which was used in making clarinets. He was not sensitive to turpentine, copper sulphate or the other chemicals encountered in his work.

A RARE CASE OF SCHAMBERG'S DISEASE (THE FIRST OBSERVED IN GREECE). P. Photinos, Dermat. Wchnschr. **98**:513 (April 28) 1934.

Photinos observed a 14 year old girl who showed a pigmentary eruption on the inner surface of the right leg. The left leg was only slightly involved. The lesions started as erythematous macules and were arranged in rings. The disorder is considered a disease *sui generis*.

RECURRING ZOSTER. H. HRUSZEK, Dermat. Wchnschr. **98**:515 (April 28) 1934.

Two cases of recurring herpes zoster are described. In the first the period between attacks was one year, during which neuralgic pain continued, and the recurrence took place in the same location as the original eruption. In the second case a period of three weeks intervened, and the recurrence affected a new region

and was associated with a varicelliform generalized zoster. In both instances autoinoculations of the vesicle contents gave negative reactions and inoculation into the cornea of rabbits failed to produce keratoconjunctivitis.

ONYCHOTILLOMANIA. J. ALKIEWICZ, Dermat.Wchnschr. **98**:519 (April 28) 1934.

A man, aged 53, showed destructive changes of the nails of the fifth fingers due to picking at them with the thumb nails during periods of nervousness.

TAUSSIG, San Francisco.

COMPLEMENT FIXATION IN HERPES ZOSTER AND CHICKENPOX. OLUF THOMSEN, Ztschr. f. Immunitätsforsch. u. exper. Therap. **82**:88, 1934.

The antigen was prepared from crusts of herpes zoster and from chickenpox lesions. The results of complement-fixation tests with the serums of eighty-eight patients with herpes zoster and with those of fourteen patients with chickenpox were entirely negative. Thomsen calls attention to the recent report of Brain of England, who obtained positive results with an antigen prepared from the vesicular fluid and negative results when crusts were used as antigen. Brain's work confirms some previously expressed opinions of a close serologic relationship between the two diseases. DAVIDSOHN, Chicago. [ARCH. PATH.]

SUBCUTANEOUS FAT NECROSIS IN THE NEW-BORN. J. BERNHEIM-KARPER, Ztschr. f. Kinderh. **55**:695, 1933.

Fifteen cases of subcutaneous fat necrosis in the new-born are recorded. Such cases are not so rare as has been thought. The chief etiologic factors are trauma, exposure to cold and ischemia. One instance was due to spraying with ethyl chloride. Microscopically, calcification has been observed repeatedly, as well as giant cells and fatty acid crystals. The areas of necrosis disappear spontaneously, although it may take months. KLEIN, Chicago. [ARCH. PATH.]

METASTATIC KERATITIS PARENCHYMATOSA IN SYPHILITIC RABBITS: II. VARIATION IN THE NUMBER OF SPIROCHETAE PALLIDAE IN KERATITIS PARENCHYMATOSA. T. FUNABASHI, Lues: Bull. Soc. japon. de syph. **10**:67 (April) 1934.

Of 132 eyes of syphilitic rabbits 127 showed keratitis and 129 contained spirochetes. The spirochetes appeared most frequently sixty days following the infection. The keratitis, edema and opacity of the cornea appeared either simultaneously or at different times. The course of the keratitis was chronic, and its duration varied in different animals. The variation in the clinical picture was also marked. In some eyes the process started at one point of the cornea, and after its involution a similar process began at another point and also disappeared. Sometimes recurrence took place in the spot in which pathologic changes had existed previously. The period of incubation varied between fifty and one hundred days; rarely it was thirty-three or three hundred and thirty-nine days.

Exceptionally there was granulomatous proliferation of the conjunctiva bulbi near the corneal limbus. When this occurred the pericorneal injection was marked and many spirochetes were noted.

Spirochetes were found during the period of edema and beginning opacity. They were most numerous during the period of new formation of capillaries and distinct opacity. They diminished in number during the progression and disappeared following the height of the process. Conjunctivitis was relatively mild in this form of keratitis.

BLOOM, New York.

Society Transactions

NEW YORK ACADEMY OF MEDICINE, SECTION OF DERMATOLOGY AND SYPHILIS

EUGENE F. TRAUB, M.D., *Secretary*

April 3, 1934

LEO SPIEGEL, M.D., *Chairman*

A CASE FOR DIAGNOSIS (PSORIASIS?). Presented by DR. JESSE A. TOLMACH.

This school boy, aged 10 years, born in the United States, appeared at the Beth Israel Hospital complaining of an eruption which began about seven months ago with a circinate lesion on the anterior surface of each thigh. Both of these lesions disappeared with applications of iodine at home. One month later the eruption became general, extending from the lower part of the face to the toes. Its characteristics changed, and in addition to the circinate lesions there were discrete and confluent vesicles, bullae, papules and annular forms. About ten weeks ago fungi were demonstrated in scrapings from one of the circinate lesions on the left leg. Numerous subsequent examinations for fungi gave negative results. Some of the lesions have disappeared, but their disappearance has been followed quickly by the appearance of new crops. Some of the papular lesions are surmounted by a central scale, while others show peripheral extension with central scaling. Some of the bullous lesions appear to dry in the center, leaving the periphery infiltrated, scaly or crusted.

The report on histologic examination of one of the papular lesions was as follows: "There are slight inflammation and edema in the papillary body. Except for a little acanthosis and parakeratosis, the epithelium shows nothing unusual. The histologic picture is that of a mild chronic inflammation." The blood count showed nothing abnormal. An examination of the urine for iodides and bromides gave negative results.

DISCUSSION

DR. HERMANN GOLDENBERG: In spite of the statement that at one time fungi were found in one lesion of the lower extremity, I am inclined to believe that the condition is psoriasis.

DR. ISADORE ROSEN: I am sorry that I could not see the patient in good daylight instead of in artificial light. The condition is very unusual and probably requires much more study than is possible in a casual examination. My impression was, however, that it is an unusual form of psoriasis, taking on some of the features of a parasitic infection. One knows that psoriasis-like syphilis may imitate other diseases.

The features suggestive of psoriasis are the general dissemination and uniformity of the eruption and the character of the scales. The annular configuration of some of the lesions does not militate against the diagnosis of psoriasis, because one often sees such lesions in that disease. The unusual feature in this case is the presence of vesicular lesions on the palms and soles. The boy may have a dermatomycosis in connection with psoriasis.

DR. HERMANN GOLDENBERG: The results of the microscopic examination substantiate the diagnosis of psoriasis.

DR. LOUIS CHARGIN: I hesitate to make a definite diagnosis. Like the other discussers I am puzzled by the clinical aspect of the eruption. I should like, however, to suggest another condition that should be considered. I refer to erythema multiforme, not, of course, the Hebra variety, but rather a toxic

eruption, which is occasionally observed in the form present in this patient. I offer this diagnosis although a good many features favor the diagnosis of psoriasis.

DR. HERMANN FEIT: I think that this condition is a good example of Jadassohn's psoriasis microgyrata, which has a tendency to heal in the center and progress at the periphery. This is one of the reasons that psoriasis is considered by man to be an infectious disease. As to the bullous or vesicular lesions, it would be interesting to know whether the child was given arsenic or any other medication that would cause lesions of the hands.

DR. PAUL GROSS: The clinical examination revealed considerable infiltration and papule formation, so that at first I thought that the condition might be lichen planus. After examining the histologic section I realized that the so-called infiltration was actually a marked edema which became exaggerated in certain areas, forming vesicles either microscopically or macroscopically apparent. On the other hand, there is a type of scaling which can be described only as pityriasis rosea-like and it is not at all like the scaling that is found in psoriasis. The areas that show the most marked erythema and infiltration show no scaling. Furthermore, there is a symmetrical distribution, the eruption being scanty on the trunk and situated mostly on the extremities. I believe that all these features support the diagnosis of erythema multiforme made by Dr. Chargin. An objection might be made because of the scaling, but I think that every one present has seen typical erythema resulting in exfoliation or scaling.

DR. MARION B. SULZBERGER: I am inclined to agree with Dr. Feit in the diagnosis of Jadassohn's psoriasis microgyrata. At first glance I was much puzzled by this case, because, while I have seen about ten cases of microcircinate psoriasis, in none was the eruption as extensive. Moreover, I have never seen the vesicular lesions on the palms. In every other way this case corresponds fairly well with the condition that Jadassohn described in 1897 (Gassmann, A.: *Arch. f. Dermat. u. Syph.* **49**:171, 1899). He was always interested in this type of psoriasis on account of the similarity of the lesions to those found in infectious processes, and he maintained his interest in it to such a degree that he chose this disease as his subject for what he intended to be his last clinical contribution and announced that he would speak on *"Klein zirzinaere Psoriasis"* at the last German dermatologic congress. This congress was postponed. The histologic picture in this case, does not, to my untrained eye, contradict the diagnosis of this atypical form of psoriasis. I am afraid that Dr. Tolmach is going to have his hands full as far as therapy is concerned, because this is probably one of the most resistant forms of psoriasis that one can encounter.

DR. OSCAR L. LEVIN: I first saw the patient when he was presented at the clinical conference at the Beth Israel Hospital one month ago. At that time he showed less than 25 per cent of the number of lesions that are present this evening. At that time I considered various diagnoses which were excluded, such as granuloma annulare, lichen planus, tinea circinata and toxic erythema. However, some of the lesions were distinctly papular; on scratching the scales they became shiny and silvery, and on removal of the scales, pinpoint bleeding points appeared. I made the diagnosis of psoriasis, and this evening this diagnosis is confirmed by the pathologic change seen in the stained section.

DR. HERMAN SHARLIT: It appears to me that any particular case should be discussed from the point of view of all the clinical information available with respect to that case. This patient first arrived in the clinic with two lesions, both on the lower extremity; and if anything is typical of ordinary tinea circinata, those two lesions were. They were the first lesions this boy had. They cleared up under a simple remedy, and therefore there have occurred a series of eruptions which have never showed a typical picture at any one time; that is, no one type of lesions has ever predominated. There were vesicles, bullae and papules, arranged in all sorts of forms, appearing and disappearing. If that is the history of the picture that Jadassohn described for his form of psoriasis, the patient has microcircinate psoriasis. But it is very simple to consider that the condition

started with tinea and that as a result of the tinea all these eruptions are appearing as a type of toxemia; the lesions may then be accepted as erythema multiforme.

Dr. Fred Wise: Did any one take special notice of the lesions on the palms? To me they seemed to be distinctly yellow like the lesions of xanthoma. (Under the title "Physiologic and Pathologic Chemistry of the Skin: Extracellular Cholesterinosis," Urbach and his collaborators described a condition associated with lipoid dysfunction [Wise, F., and Sulzberger, M. B.: Year Book of Dermatology and Syphilology, Chicago, Year Book Publishers, 1932, p. 138].) Possibly the eruption presented by this patient is related to the type described by Urbach.

Dr. Jesse A. Tolmach: The discussion has been interesting. Though it is true that some of the lesions resemble psoriasis, several important points must not be overlooked. In the first place, the original lesions appeared to be typical tinea circinata and responded quickly to treatment with tincture of iodine. In the second place, fungi were once recovered from one of the circinate lesions. In the third place, many of the primary lesions are vesicles or bullae, whereas the primary lesion of psoriasis is a papule. The lesions have shown a tendency to appear in crops. At times the papules and at other times the vesicles or bullae have been predominant. Among various other possibilities, my associates and I considered a general trichophytid. The suggested diagnosis of microcircinate psoriasis is interesting, and we shall study this case further with this possibility in mind.

Pustular Psoriasis. Presented by Dr. Hermann Feit.

This man, aged 50, a bartender, born in Russia, for the past month has complained of an eruption located on the penis, thumbs, big toes and trunk. He states that he has not had a venereal infection and that he had never had an eruption before the middle of February 1934. There is no history of rheumatism or of psoriasis in the family. Scattered over the body there are crusted, rupia-like lesions which ooze after removal of the crusts. The portions of the fingers and toes adjacent to the paronychia of the nails are reddened, swollen and sensitive; the lunulae of the nails are filled with pus; the nails are discolored and deformed, and their bases are covered with hard crusts. The Wassermann test was negative. The blood sugar was 105 mg. per hundred cubic centimeters.

DISCUSSION

Dr. A. Benson Cannon: I believe that the inflammatory reaction around the lesions, the granular, thickened bases of the nails and the marked rupial crusts are more suggestive of syphilis than of psoriasis. I have found no lesion that I can ascribe to psoriasis and it is not uncommon to obtain a negative Wassermann reaction from patients with rupial types of syphilis. The bullous lesions on the soles and between the toes would be unusual in either of the conditions mentioned, and they lead one to suspect an eruption due to a drug, particularly to a bromide, although there is no suggestion of bullae around the rupial lesions. I should regard the condition as rupial syphilis until it is proved to be something else. I suggest that the patient be presented at the next meeting and that further studies be carried out, including the making of a provocative injection of arsphenamine.

Dr. Oscar L. Levin: I believe the condition to be psoriasis. At first glance the lesions suggested ecthyma or rupial syphilis, but on closer examination it was apparent that when they are scratched they become shiny and silvery. The lesion on the penis is characteristic of psoriasis; it is smooth, shiny, polished and covered with a firmly adherent scale. It is the general impression that the lesions of psoriasis are dry; however, one often finds parakeratosis and a tendency to exudation. Because of the exudation and the rapid growth of layers of scales, the rupial lesions develop. This eruption belongs to the group of psoriasis osteacea.

Dr. Max Scheer: At first the lesions on the trunk and fingers did not look like psoriasis. They seemed crusted instead of scaly. The lesion on the glans,

however, was fairly typical. One probably must assume that the whole picture is psoriasis because one finds a fairly characteristic lesion on the glans. I think that without this lesion one could not make a diagnosis of psoriasis from the lesions on the back or from those on the fingers.

DR. ADOLPH ROSTENBERG: I also believe that the condition is psoriasis, but I think that if there is a history of gonorrhea, keratodermia blennorrhagica should be considered. The fact that the extremities are affected speaks in favor of such a suggestion.

DR. HERMANN GOLDENBERG: I too had the impression that the condition might be keratodermia blennorrhagica. The patient states that he has not had gonorrhea. I think that the eruption is typical psoriasis pustulosa.

DR. PAUL GROSS: I agree with Dr. Feit's diagnosis of psoriasis except for the type. It is, however, mere hair-splitting to discuss the particular name given to this condition. I should rather subscribe to Dr. Levin's suggestion that it is the oyster-shell type of psoriasis. This is a generalized exudative type of psoriasis and is prognostically important because it often turns into arthritic psoriasis.

DR. HERMANN FEIT: I presented this patient because of the oyster-shell lesions which one finds in rupial syphilis. The man has typical psoriasis of the penis, as has been said. If the condition were syphilitic one would expect an infiltration of the glans penis, which is not present. There is a thick scale. After removal of this scale there is no infiltration. The man states that he has not had syphilis or gonorrhea, and he has a negative Wassermann reaction. However, in order to settle whether the case is one of psoriasis or one of syphilis, I shall make a therapeutic test. Certainly if the lesions clear up promptly under anti-syphilitic treatment, I shall subscribe to Dr. Cannon's opinion.

LEUKEMIA CUTIS? Presented by DR. HERMAN SHARLIT.

This man, aged 41, Russian, has been under observation at the Beth Israel Hospital for three years, both as a hospital and as a dispensary patient. During this period many blood counts have substantiated the diagnosis of chronic lymphatic leukemia. Recurrent crops of lesions, all associated with itching, have appeared on the skin. These lesions are all papular. Some are large and others small, some being distinctly in the derma and others large enough to involve the hypoderm. Some are distinctly hemorrhagic, having much the appearance of Kaposi's sarcoma. A biopsy specimen taken one year ago from one of the hemorrhagic lesions disclosed only a nondescript chronic proliferative inflammation. A biopsy specimen taken at that time from another lesion disclosed monocytic infiltration which was judged to be a true lymphatic infiltration.

The patient now has many papules on the trunk, extremities and face, many of them deep and as large as a coin, associated with excoriation and eczematization in places as a result of scratching.

DISCUSSION

DR. CHARLES WOLF: This case is interesting in view of the fact that there is no history of the eruptions appearing after roentgen therapy. Clinically the lesions appear superficial, vesicular and slightly infiltrated. In leukemia cutis there are infiltrative lesions of all types, bullae, vesicles, papules, nodules and hemorrhagic plaques. They do not itch, as a rule. I believe that this eruption is a toxic manifestation of leukemia and not true leukemia cutis. Another characteristic of leukemia cutis is that the nodules persist and are not apt to be evanescent, as these have been.

DR. GEORGE C. ANDREWS: It is difficult to say, unless one studies them histologically, whether these lesions are those of true leukemia or leukemids. Some of the lesions look a good deal like a toxic manifestation. However, there are a few others which are definitely infiltrated nodules under the skin. I shall not be surprised if these show the histologic picture of leukemia. I think that that question will have to be settled by microscopic study.

DR. SAMUEL M. PECK: It seems to me that the clinical picture is that of the toxic eruptions which are seen in cases of leukemia rather than that of leukemia cutis. The histologic characteristics of such eruptions are not specific, and that is why they have been given the name leukemids.

DR. FRED WISE: I am a little confused about the discussion. I believe that a biopsy was made on one of the lesions. If it was, did it show a banal, nonspecific inflammation or leukemia of the skin?

DR. HERMAN SHARLIT: The biopsy showed definitely that the eruption is a leukemic infiltration of the skin. I wrote the brief record submitted here this evening because the original record was misplaced. The title "Leukemia Cutis" refers to the specific lesion which was removed a year ago. That lesion would have to be diagnosed as leukemia cutis. Clinically the patient now shows lesions of the nondescript type as well.

DR. FRED WISE: I accept this case as one of leukemia which presents both the specific lesions and the nonspecific "toxic" or urticarial lesions which one sees in association with the various forms of leukemia.

DR. G. F. MACHACEK: At the Vanderbilt Clinic my associates and I had an interesting experience with a case of Dr. Mercer's. This threw some light on the specificity of cutaneous lesions of leukemia. The condition was neither frank lymphatic nor myelogenous leukemia. With supervital stains it was classified as monocytic. The woman suffered from a sudden generalized eruption which could have been considered to be of toxic origin. Tiny, slightly bluish infiltrations which soon became hemorrhagic were present. Sections of one of the early lesions surprised us by showing a definite infiltration by the large mononuclear phagocytic cells known today as monocytes, which were grouped about blood vessels. The clinical appearance of these lesions changed in a few days to that of a definite hemorrhagic, nonspecific eruption. I think that one must be careful how one interprets these eruptions clinically. Some time ago I presented before this section a patient with lymphatic leukemia who had large edematous and vesicular lesions and even some which were necrotic and showed a tuberculomatous infiltration. One other such case has been reported in the literature. A third case of generalized exfoliating and exudative dermatitis came under our observation. The corium was found to be profoundly infiltrated by definite leukemic cells which I thought were of myeloblastic origin. I think that clinical appearances are not certain criteria of the specificity or the nonspecificity of the cutaneous lesions of leukemia; one must examine the lesions soon after their appearance.

DR. LOUIS CHARGIN: It is, of course, well recognized that leukemia and the other essential diseases of the blood are frequently accompanied by cutaneous manifestations, which are either specific or nonspecific. That on clinical grounds alone it is not always possible to separate the specific from the nonspecific lesions is, of course, true. It may well be, as Dr. Machacek points out, that lesions clinically and histologically nonspecific will in time undergo changes which are pathologically specific, but there is a large group of cases in which the eruption will remain specific or nonspecific throughout the course of the disease.

A CASE FOR DIAGNOSIS (LUPUS ERYTHEMATOSUS, SENEAR-USHER TYPE?). Presented by DR. PAUL GROSS.

This man, aged 50, Irish, a chauffeur, was first seen at the Vanderbilt Clinic two months ago. The eruption was then of three months' duration. It began as a vesicle on the right temple. The patient also had a few wheals on the trunk. He had taken cascara sagrada and acetylsalicylic acid occasionally.

For two months the patient has taken no drugs. The urticaria disappeared one week after his admission and has not recurred. The isolated lesion on the right temple disappeared after the application of ½ skin unit (140 roentgens) of a calamine lotion, but it recurred immediately and persisted.

There is now a sharply defined erythematous, glazed area 5 cm. in diameter. The center appears atrophic. At the periphery there are elongated vesicles. On

pressure over the center, fluid is seen to escape toward the periphery. The surrounding skin contains telangiectases. These are also present about the nose. The mucous membranes and the scalp are clear. The Wassermann reaction of the blood was negative.

A section from the edge of the lesion taken two weeks ago showed that most of the epidermis had been torn away; that which remained was edematous. Acanthosis had occurred, and mitotic figures were present. The rete pegs were for the most part obliterated. Some of the epithelial cells contained oval eosinophilic inclusion bodies. The corium showed numerous large, dilated capillaries. The collagen showed evidence of degeneration and slight focal necrosis. The number of connective tissue elements was increased. There was a marked infiltration of lymphocytes, eosinophils and polymorphonuclears. Many of the changes were perifollicular. There was evidence of scarring in the corium. The infiltration was also present deep in the corium but to a less degree than just beneath the epidermis. A definite diagnosis of lupus erythematosus could not be made.

DISCUSSION

DR. OSCAR L. LEVIN: I suggest a diagnosis of morphea-like epithelioma. This patient shows a large patch on the right temple without evidence of lupus erythematosus. Along the border there are some papules the size of a grape seed which, on biopsy will, I think, show the presence of epithelioma.

DR. MARION B. SULZBERGER: I am inclined to agree with Dr. Levin that the lesion may be a form of epithelioma. The upper border is strongly infiltrated, much more so than one would expect to find in the usual lupus erythematosus. Of course, some forms of lupus erythematosus show infiltration, but the infiltration does not proceed beyond the areas of the superficial involvement. In this case the infiltrated border is like the border of an epithelioma advancing into the cutis beyond the edge of the epidermal changes. Is there a possibility that this may be a precancerous condition which has progressed until scarring occurred? It is remarkable that in all the cases of erythroplasia that have been reported the lesions which were not on the mucous membranes or on the transitional mucous membranes were on the temple. I have seen one case involving the temple, and that is the only cutaneous localization which, as far as I know, has been reported in the literature (H. Freund, in Wise, F., and Sulzberger, M. B.: Year Book of Dermatology and Syphilology, 1933, p. 183). I should like to know whether the histologic picture in this case corresponds with that of erythroplasia.

DR. ISADORE ROSEN: I am also of the opinion that the condition is some form of epithelioma. I gained the impression that the border of the lesion is slightly raised and infiltrated. The central portion of the involved area is distinctly atrophic. It is possible that a certain amount of this atrophy is due to the previous therapy employed.

DR. MAX SCHEER: A casual glance at the lesion gives the impression that it is a superficial erythematoid epithelioma, but a closer view shows distinct vesicles. I do not see how the presence of vesicles can be correlated with epithelioma. I am inclined to accept the diagnosis of bullous lupus erythematosus.

DR. FRED WISE: I think that the eruption is vesicular or bullous lupus erythematosus. Furthermore, I believe that the histologic examination will show the changes which one expects to see. Cases like this were recently presented by Dr. Traub and myself. I wish to ask how many observers, besides Dr. Scheer and myself, noted the crop of vesicles on the upper border of the lesion.

DR. PAUL GROSS: I fully realize that the Senear-Usher type of lesion is pemphigus, but pemphigus cannot be diagnosed until it has developed. The early lesions on the face described by Senear and Usher strongly suggested lupus erythematosus. I refrain from indicating the diagnosis of pemphigus on a presentation chart when an intelligent man is obliged to hold his chart and can read it. If the lesion is of the Senear-Usher type it either remains a solitary lesion or later changes to the picture of pemphigus. One of the main reasons for presenting

this patient was to have Dr. Machacek discuss the pathologic observations with reference to the diagnosis of erythroplasia. I met with considerable opposition and was waiting for the histologic examination to either bear out or disprove my diagnosis. I do not think that vesicles or bullae, which are present and which at first I thought might be due to local treatment, entirely contraindicate a diagnosis of erythroplasia.

Dr. G. F. Machacek: The biopsy showed fibrosis and marked infiltration of cells in the corium. Many eosinophils, some polymorphonuclears, plasma cells and an increased number of connective tissue cells were present. There was no evidence of a neoplasm or of erythroplasia.

A Case for Diagnosis (Psoriasis?). Presented by Dr. Paul Gross.

This woman, aged 23, married, born in the United States, has had an eruption on the hands and wrists for twelve years. She had an operation on the thyroid gland, and she believes that the cutaneous condition appeared shortly afterward. Her health has been good. She had a miscarriage in January 1933, and she thinks that the cutaneous condition has become worse since.

The palmar surfaces as well as the wrists show a dry, erythematous eruption with hyperkeratotic scales and fissuring. No definite vesicles can be seen. The lesions on the right wrist are fairly circumscribed. The condition also extends to the dorsa of the fingers. The finger-nails show slight pitting. The scalp and the body are free from lesions. The basal metabolic rate was found to be —8 per cent.

DISCUSSION

Dr. George C. Andrews: I have seen this patient in the clinic two or three times, and the only diagnosis I can make is that of chronic eczema. I suppose that Dr. Gross believes that the condition may be pustular psoriasis or one of the pustular eruptions that occur on the palms and soles, but I have not seen any evidence of these diseases in this patient. Pitting of the nails is certainly not enough to lead to such a diagnosis. Hence I do not think that I can do any more than call the condition chronic eczema and advise that attempts to ascertain the cause be made.

Dr. Hermann Goldenberg: I think that the condition is psoriasis.

Dr. Louis Tulipan: The scaly condition and fissuring of the palms and the pitting of the nails which have lasted for twelve years give a fairly good picture of psoriasis. Many such cases have been verified later by the appearance of lesions on other parts. Of course, as the condition has lasted twelve years, one would expect to find lesions elsewhere. Nevertheless I believe that it is palmar psoriasis.

Dr. Isadore Rosen: While it is impossible for one to make an absolute diagnosis in a case like this, I agree with the diagnosis of palmar psoriasis suggested by Dr. Goldenberg. In my experience in patients with palmar psoriasis who have had roentgen treatment over long periods, a picture develops in which the clinical features are not readily recognizable as those of psoriasis, and, as in this case, they are resistant to other forms of therapy.

Dr. Samuel M. Peck: When I first saw cases of this type I did not make a diagnosis of psoriasis but believed that I was dealing with a form of chronic eczema. After Dr. Rosen and Dr. Goldenberg had shown me a number of instances in which the histologic picture strongly suggested psoriasis, I had to admit that this type of psoriasis was more frequent than had been supposed. After my associates and I had followed up a number of these patients we saw typical psoriatic lesions develop elsewhere on the body.

Dr. George C. Andrews: I object to calling this condition psoriasis for a purely practical reason. The moment one makes a diagnosis of psoriasis, one is apt to be self-satisfied and not search further for the cause. That is the diagnosis, and that finishes it. Such a state of affairs does not do the patient any good. Some of these patients have been cured after a further search for the cause was

made. I have been much interested to see that in some cases of so-called pustular psoriasis of the extremities, not exactly like this condition, a cure followed the removal of foci of infection, particularly of the tonsils. I was much interested to hear recently from Dr. Barber of London that the removal of foci of infection, particularly of the tonsils, has been extremely effective in curing pustular psoriasis of the extremities. If that is so, I do not see why the same results are not obtained in psoriasis on other parts of the body. In other words, I have some antipathy against the diagnosis of pustular psoriasis of the extremities. The practical reason is that, for the good of the patient, I do not like to make that diagnosis unless I am absolutely certain that it is correct, because it means that most people do not search any further for the cause of the trouble. When a patient with typical psoriasis comes into the office the dermatologist is likely to throw up his hands as far as searching for the cause is concerned. Attempts to cure psoriasis are rather hopeless, but with pustular psoriasis of the extremities, the outlook is not hopeless. I have had several patients in whom a complete cure has resulted after a year or two.

DR. HERMANN GOLDENBERG: I did not mean pustular psoriasis when I expressed myself in favor of the diagnosis of psoriasis.

DR. A. BENSON CANNON: In searching for the cause, may I suggest that the patient's blood and urine be examined for arsenic, it being borne in mind that arsenic is frequently responsible for keratotic lesions on the palms and soles.

DR. PAUL GROSS: There are two factors in the history of this patient which apparently some of the discussers overlooked. I stated specifically that no pustules or vesicles were seen during the short time in which the patient was observed in our clinic. Secondly, the eruption appeared shortly after the patient was operated on at the age of 11 years for a disorder of the thyroid gland. On repeated questioning the patient said that the eruption appeared shortly afterward and has remained in the same condition since then, that is, twelve years ago. I purposely did not make a diagnosis of psoriasis because of this history and the peculiar hyperkeratosis without the sharp demarcation which is present in typical psoriasis on the palms and soles. Such a sharp border is absent, and I think that the eruption may be merely a type of keratodermia which is occasionally found in connection with an endocrine disturbance. Twelve or fourteen years ago, I observed a case similar to this in a woman of the same age who had a definite thyro-ovarian dysfunction. I also pointed out that there is some pitting of the nails. The condition may be psoriasis of the palms or keratodermia due to an endocrine disturbance.

PEMPHIGUS VULGARIS CURED BY NEOARSPHENAMINE. Presented by DR. E. W. ABRAMOWITZ.

This man, aged 67, was presented by Dr. George M. MacKee, from the department of dermatology and syphilology of the New York Post-Graduate Medical School and Hospital, on Oct. 25, 1932, before the New York Dermatological Society (ARCH. DERMAT. & SYPH. **27**:531 [March] 1933). He was admitted to the New York Post-Graduate Medical School and Hospital on April 25, 1928, with a typical bullous eruption in the mouth and over the entire body, of six months' duration. When he was seen in 1928 there was general agreement that he presented classic pemphigus vulgaris. At the time of the presentation in 1932 he had been well for four years. He recently returned to the clinic because of herpes zoster of the right side of the chest. He had then been free from pemphigus for six years.

Photographs are presented which show the lesions as they existed in September 1928.

DISCUSSION

DR. LOUIS CHARGIN: I believe that one should be cautious in attributing the excellent result in this case to arsphenamine, since in some cases of pemphigus long remissions occur spontaneously. Moreover, one should be careful in declaring a patient cured of the disease.

DR. ISADORE ROSEN: I saw this patient when he was admitted to the New York Post-Graduate Medical School and Hospital, and I have had many opportunities of seeing him with Dr. Abramowitz. I want to verify the clinical diagnosis of pemphigus. If a patient has been free from lesions for six years, one can assume that in all probability he will not have a recurrence.

DR. Abramowitz suggested that I show this evening one of my patients with pemphigus, a man of 55 who had extensive lesions in the mouth and on the trunk and whom I treated for almost one year with various types of therapy, such as sodium arsenate subcutaneously, bismuth intramuscularly and cholesterol and lecithin orally. When I first saw the patient he was unable to take any solid food, was emaciated, had lost about 30 pounds (13.6 Kg.) in weight and was very anemic. The improvement was gradual but was most marked after the administration of bismuth intramuscularly and of the lipids by mouth.

An interesting feature in this case was the chemical study of the blood which showed a low serum cholesterol. In some cases of pemphigus there is a tendency to a decrease in the amount of lipids, especially of cholesterol, and with the improvement of the condition of the skin there is a gradual increase in the figures for those substances. The opposite may occur also—namely, a marked increase of the lipid content and as clinical improvement takes place a return toward normal values.

This patient has been under observation for two years, and for the past year he has had no recurrence of bullous lesions and his general physical condition is as good as it was before he became ill.

DR. LOUIS TULIPAN: I do not believe that one should attribute the cure to neoarsphenamine in this case, because most dermatologists have tried various medications in pemphigus, and every once in awhile it happens that a patient gets well in spite of what is done for him. I have under observation at the Bellevue Hospital a woman who has had three attacks. Three years ago she had typical pemphigus, with lesions in the mouth. At that time the Pels-Macht test was positive. She was treated with acetarsone, and the condition cleared up. She came back about a year and a half later. At that time one of the internists suggested that viosterol be given. She received this and again got well. She reentered the hospital recently with pemphigus vegetans, and my associates and I did not give her any treatment this time. She is well again and is ready to be discharged.

DR. ADOLPH ROSTENBERG: I should like to report the experience I had with methylthionine chloride U. S. P. (methylene blue). Dr. Pels and Dr. Macht suggested its use. At least this treatment has some rational basis because the administration of methylthionine chloride causes a rise of the phytotoxic index. One patient had been ill for about three years and had been treated with viosterol and with the ordinary types of treatment with no result. Another patient had an acute onset with severe oral lesions and bullae all over the body. Both of these patients were given intravenous injections of methylthionine chloride, and in both the lesions improved remarkably, clearing up entirely in about two months. Both were men in the forties. One, however, had a relapse, not as severe as the original attack. The other is still entirely free from symptoms after eight months. Encouraged by this experience I have tried methylthionine chloride in two other cases with no results at all. This shows that some patients respond to the treatment and others do not.

DR. SAMUEL M. PECK: My experience with methylthionine chloride and with viosterol, although limited, has been disappointing. It has been known for years that arsenic often has a beneficial effect on the course of pemphigus, but the drug must be administered in toxic doses. Unfortunately, in the majority of cases recurrences follow a cessation of treatment. I think that in Dr. Abramowitz' case the injections of neoarsphenamine had a beneficial effect and are responsible for the remission. I should like to know how much neoarsphenamine the patient received.

DR. A. BENSON CANNON: Of eighty patients with pemphigus I can recall only five who are still living. Those have remained free from all lesions for from

one to eleven years. Two of the patients were young persons, one a girl of 17 and the other a man of 29. The girl had a severe type of pemphigus, being confined to a hospital for a year. She has been well for about eleven years. I think it is hard to ascribe cures to any particular drug. Of the drugs used, arsenic and the alkalis have probably been the most beneficial. Of course, one of the most important features of the treatment is thorough cleanliness. It has made little difference what type of arsenic was used, whether arsenous acid, a solution of potassium arsenite or one of the arsphenamines.

DR. SAMUEL FELDMAN: I saw the patients treated with methylthionine chloride. In the beginning the cure was truly remarkable. Besides, the phytotoxic index rose as the patients improved in appearance. That was the experience with the first two patients. I warned the others not to be too enthusiastic, that the "cures" might have been coincidental. There was another patient who at the onset had a phytotoxic index of 85, which is even better than normal. This was the worst case of pemphigus I have seen. The patient had bullae so large that 400 cc. of fluid was taken from one of them. This patient received thirty or forty injections of methylthionine chloride without showing the least improvement. I do not believe that methylthionine chloride has anything to do with remissions in these cases or that the phytotoxic test indicates anything pertaining to the condition.

DR. MARION B. SULZBERGER: I should like to ask the members to be more specific about the large doses of arsenic they mention. All dermatologists undoubtedly see many patients with pemphigus, and there may be a great difference of opinion as to the amounts of arsenic which are to be given. I think that Dr. Pollitzer can say something about that. Many years ago he advocated what might be called extremely large doses of arsenic. I think one is apt to be a little too hesitant in increasing the dose. A different point of view is needed. It is justifiable to use heroic measures in cases of pemphigus, and one must have a different point of view about the amount of arsenic to be given in pemphigus and in, for instance, psoriasis. I wish to ask Dr. Pollitzer and Dr. Cannon how large a dose they gave. Good results were obtained in a patient whom Dr. Wise and I treated and have been able to follow definitely since. He received up to 80 minims (5 cc.) of a 2 per cent solution of sodium arsenate daily, and during the same period he was given a tryparsamide, sulpharsphenamine and neoarsphenamine at different times. Such a severe neuritis developed that opiates had to be used to combat it, but in spite of that the administration of arsenic was continued and the patient has shown no exacerbations in three years.

DR. SIGMUND POLLITZER: I have repeatedly expressed my views on the use of arsenic in the treatment of pemphigus. Until the cause of that disease is known, the treatment must necessarily be empirical. Pemphigus is simply a clinical picture. It is not even known whether the various types are etiologically related. In view of the occasional reports of great improvement or even cure following the employment of different methods of treatment, it is probable that while there may be a single cause for the cutaneous lesions there are several kinds of primary causes and that the various remedies act favorably on one or on another of these factors. In one early case of pemphigus foliaceus the patient got well under treatment with calcium and viosterol plus arsenic, and I was unable to decide which drug was the most effective.

Of all the remedies for pemphigus, I am convinced that arsenic takes the first rank, but it must be given in very large doses. I use sodium arsenate in a 2 per cent aqueous solution with the addition of 1 or 2 per cent of phenol. The injection, intramuscular or subcutaneous, is absolutely painless. A complete cure has resulted in several cases of pemphigus in which the patient looked as if he could not live for another week. I recall the case of an elderly man whose body was literally covered with lesions in various stages with involvement of the conjunctivae and the buccal mucosa. At my direction the nurse kept a record of new lesions that appeared each day. At the height of the disease a daily average of eighty fresh lesions could be counted. Under very large doses of sodium arsenate, up to 40 drops of a 4 per cent solution twice a day, which the patient tolerated

perfectly, new lesions gradually ceased to appear. Then the attending physician, alarmed—without reason—at the possibility of injury from these large doses, reduced the amount injected daily. It was interesting to note the perfect inverse ratio between the amount of arsenic injected and the occurrence of new blebs. As the dose was reduced, more and more new lesions appeared. When I saw the patient again I ordered an increase in the dose to its previous high level. The patient's skin cleared up entirely. A year later a slight recurrence on one arm was promptly controlled by a short course of treatment with arsenic, and the patient remained well until he died of pneumonia three years later.

I do not wish to convey the impression that every patient with pemphigus can be cured by arsenic. Some patients cannot tolerate large doses, and in such cases the treatment must be stopped. But with a disease which almost invariably terminates fatally one is justified in taking some risks.

As to the arsphenamines, it is true that with them single large doses of arsenic can be administered. But in the first place the trivalent arsenical compounds are the preparations that exercise a special influence on ectodermal tissues, nerves and skin (for this reason) Erhlich developed the quinquivalent arsenicals for the production of spirocheticidal effects that would do the least harm to the tissues); secondly, in addition to the specific influence on the skin it is important to maintain a prolonged action of the drug. This can be accomplished only with the trivalent arsenicals. I pointed out this essential difference in the two classes of arsenical compounds in a note in my translation of Darier's textbook fifteen years ago.

Dr. A. Benson Cannon: I have used old arsphenamine and tryparsamide in the treatment of pemphigus more than any other drugs. I invariably use small doses, never exceeding 0.3 Gm. and often giving not more than 0.2 Gm. of old arsphenamine and never giving more than 2 Gm. of tryparasamide. When those amounts have been exceeded the patient has been made so much worse that the drug had to be discontinued for a time.

Dr. E. W. Abramowitz: My object in presenting this patient was not so much to emphasize the importance of neoarsphenamine as a curative remedy as to show that occasionally patients with pemphigus do get well and remain well for a number of years. I treated another patient with neoarsphenamine about the same time and obtained satisfactory results. About fifteen years ago Dr. Pollitzer spoke to me of the use of sodium arsenate; it has served me well, but unfortunately not in cases of pemphigus. With the exception of the two patients cited, I have lost every patient with pemphigus that I treated, no matter what remedy I used. I had the opportunity of observing Dr. Rosen's patient whom he treated with bismuth, and I can confirm the statement that he obtained excellent results. At Dr. Wise's suggestion, I am now using germanin in a case of pemphigus and have received a very favorable report after the fourth injection, the patient's physician having stated that all the lesions had cleared up. I shall see the patient in a few days and hope to confirm this observation. (While the lesions in the mouth and on the skin cleared up nicely, a subsequent injection produced an extensive toxic erythema of the arms; this spread to the trunk, and lesions of pemphigus developed again.) In view of the favorable action of germanin in one of Dr. Wise's cases, I should think that it would be advisable to give this remedy a further trial to determine its real value in this disease. I am glad that the presentation of this patient aroused considerable discussion as to the treatment of pemphigus, and I hope that sooner or later some remedy will be discovered that will be of definite value.

Dr. Leo Spiegel: I had a case of pemphigus in which I used germanin. I gave the woman, I think, four injections of one half the usual dose, and she had a very severe toxic rash afterward. I think that she was in the hospital for three weeks before she recovered. She had a serious condition with an extensive toxic eruption. I believe that germanin is dangerous.

Dr. Fred Wise: Germanin is a drug imported from Germany; it has been employed successfully in the treatment of trypanosomiasis. I believe that the drug

is manufactured in this country under another name. In some cases of pemphigus it has seemed useful; in the majority of cases it has proved disappointing, like all other remedies employed for pemphigus.

A Case for Diagnosis (Subungual Warts? Melanotic Whitlow?). Presented by Dr. Paul Gross.

This girl, aged 15, born in the United States, has had the condition for which she is presented for two years. She does not remember the onset of the lesion, but for the past two months the finger has been painful and tender. The nail of the right middle finger shows marked convex curving. At the base of the nail is a whitish discoloration with several bluish spots in the center. The nail appears normal on the surface, and one has the impression that there is a growth from the nail bed exerting pressure on the lower surface of the nail. Roentgenograms of the finger do not show anything of importance.

DISCUSSION

Dr. Fred Wise: I think that this is a very interesting case from the clinical standpoint. When the girl is asked about her symptoms she says that her finger gets "dead white." Possibly this is Raynaud's disease in an early stage, although the normal condition of the other fingers does not give that impression. I do not believe that the diagnosis of subungual warts is tenable. There are no signs of warts under the nail, and one would not expect the nail to be as uniformly convex as it is. Besides, the history of a "dead white" finger does not fit in with such a diagnosis.

Dr. George C. Andrews: Another diagnosis to be considered is subungual angioma. The lesion has a rather long duration for a melanoma.

Dr. G. F. Machacek: One other diagnosis must be considered. Dr. Vero had a similar case. The lesion proved to be the so-called glomal tumor, a tumor of the neuromuscular portions of the blood vessels of the nail bed. This is apt to recur locally unless it is thoroughly removed. The diagnosis in Dr. Vero's case was made after a microscopic examination by Dr. Stout.

Dr. Frank Vero: It is difficult to make a definite diagnosis of a subungual tumor. The diagnosis of a glomal tumor such as that described by Masson should be considered in this case. The growth is similar to one which I treated a few years ago. When I saw the patient the tumor had been removed elsewhere by electric coagulation but had promptly recurred. I first removed the nail plate and thoroughly destroyed the tumor by surgical diathermy, but again it recurred within a few weeks. I finally referred the patient to the surgical department of the Babies Hospital, where the tumor was radically excised. A histologic diagnosis of hemangioma was made, which Dr. Stout later changed to one of glomal tumor. In spite of the thorough removal, the tumor recurred within two months. Amputation of the entire end phalanx was then considered, but the parents refused their permission. I understand that the patient was then treated in another hospital, where radium was applied with a resulting cure. I have not seen the patient since. Masson, in 1924, first described this type of tumor as an arterial angioneuromyoma originating from the arteriovenous anastomoses of the nail bed, and several cases have been reported in the literature since.

Dr. Hermann Feit: One must be very careful regarding tumors which give the impression of being melanotic tumors. I do not think that any one can make a diagnosis clinically. Only recently I had a patient with a black tumor of the finger. Some thought that the growth was melanoma, and others did not. I excised the whole tumor and it proved to be an angiokeratoma. Often tumors which are considered to be melanotic are really tumors of the blood vessels.

Dr. Paul Gross: I am grateful for this discussion. When I saw this patient for the first time a few weeks ago at the Hospital for Joint Diseases I was definitely impressed with the fact that there was a small subungual tumor, and I thought

I could see that this tumor was divided into three small lobules which showed a bluish center and whitish ischemic borders. I was also impressed by the peculiar shape of the nail, which I thought could be explained by the growth at the base of the nail. I did not get the history which Dr. Wise mentioned. I shall certainly investigate it. The most important point I gathered tonight was how to proceed in diagnosing this condition. I did not think that the bluish color was at all suggestive of melanotic whitlow, or at least of its preceding lesion, probably a small nevus under the nail, but I did not consider it wise to remove the nail and traumatize this area to ascertain the nature of the lesion. I believe in this case that the bluish color can be fully explained even by a hyperkeratotic lesion like a wart which on shining through a thick nail would have a bluish tint, but I do not think that the possibility of melanoma can be entirely excluded.

DERMATITIS MEDICAMENTOSA (DUE TO BISMUTH?). Presented by DR. HERMANN FEIT.

This man, aged 52, a chauffeur, was born in Germany and has lived most of his life in the United States. He states that he has never had a chancre but that he had gonorrhea thirty years ago. He had a sudden cerebral attack on Aug. 25, 1933, with loss of consciousness and with aphasia. He was sent to a hospital by his attending physician. While the patient was in the hospital a strongly positive Wassermann reaction was obtained, and the neurologic examination revealed changes of either arteriosclerotic or syphilitic origin. No antisyphilitic treatment was given. On his return from the hospital, his attending physician gave him twenty-five injections of bismuth salicylate. An eruption occurred, beginning on the outer side of the right thigh and spreading within ten days all over the body. The medication with bismuth was immediately discontinued. The patient was referred to the hospital, where six injections of sodium gold thiosulphate were given. There is now a swelling of the entire skin, which in certain places, especially behind the ears, has broken down, discharging serum. The patient has lost some hair. There are changes in the nail which were present before the onset of the eruption. The patient states that he has a tremendous appetite and can eat about three times more than usual. He is suffering from itching and from a sensation of heat.

TUBERCULOSIS OF THE SKIN. Presented by DR. G. F. MACHACEK.

This colored man, aged 27, born in the British West Indies, complains of a generalized eruption of one year's duration. He has a variety of lesions. There are nodular lesions showing some scarring, particularly on the forehead, nose and temporal region. At the tip of the nose and nostrils are more infiltrated, nodular lesions, the borders of which show discrete translucent round papules. Some yellowish-white macules are present within these lesions, suggesting slight necrosis. On the neck, left axillary fold and cubital region are closely arranged small, firm papules from the size of a pinhead to that of a lentil; these lesions are apparently follicular. On the arms and legs are numerous nodular, apparently cutaneous lesions showing central scarring, and on the elbows and the lower extremities there are scaling and crusting lesions. Besides these cutaneous nodules there are distinct subcutaneous nodules on the extensor and flexor surfaces of the forearms, which are outlined in a manner somewhat suggesting a relationship to the tendon sheaths. Subcutaneous and cutaneous nodules are present in large numbers on the hands and fingers. There are also callus-like lesions of the palms. On the penis and scrotum are numerous small papular and nodular superficial lesions. The trunk and the scalp are practically free from lesions. The inguinal and epitrochlear glands are somewhat enlarged.

On biopsy the sections from a subcutaneous nodule attached to the deep fascia of the forearm showed evidence of marked fibrosis. The tissue was highly vascular, showed numerous blood vessels and was infiltrated diffusely with lymphocytes,

polymorphonuclears, eosinophils and plasma cells. The most characteristic manifestations, however, were the typical solitary and conglomerate tubercles which contained giant cells and epithelioid cells. Often the epithelioid cells were arranged in a loose network. The giant cells contained variously shaped foreign bodies, some of which were calcified. Often the central portions of the tubercles contained a fair number of polymorphonuclears. These were, however, more frequent in the areas which resembled granulation tissue. Some of the smaller vessels showed evidence of proliferative changes which caused obliteration of the lumens. In places there was marked evidence of scar formation. No acid-fast or gram-positive organisms were distinguished. The most probable diagnosis on histologic grounds seemed to be tuberculosis.

The Wassermann reaction was negative.

On Feb. 28, 1934, roentgenograms of the chest showed that the pulmonary fields were clear. The hilus shadows were unusually exaggerated. There was a shadow of increased density projecting from the right vertebral border just at the region of the arch of the aorta. Its appearance suggested a mediastinal adenopathy. However, there was the possibility of its representing an early aneurysm of the aortic arch.

On March 2 roentgenograms of the chest showed no evidence of aneurysm. There were large mediastinal nodes projecting along the right border of the mediastinum at the level of the second interspace.

On March 5 roentgenograms of the skeleton and skull were made. Those of the entire skeleton showed two swellings of soft tissue along the anterior border of the upper third of the left tibia. Beneath the lower one there was some periosteal reaction. Similar soft tissue swellings could be made out in the forearms, but there were no accompanying periosteal changes. Stereoscopic roentgenograms of the skull showed numerous irregularly rounded shadows of increased density lying between the tables; these were particularly frequent in the upper half of the calvarium. The calvarium was also slightly thickened. The findings in the skull suggested Paget's disease although the other parts of the skeleton showed no changes in keeping with such a diagnosis.

EUGENE F. TRAUB, M.D., *Secretary*

May 1, 1934

LEO SPIEGEL, M.D., *Chairman*

BOWEN'S DISEASE? Presented by DR. EUGENE F. TRAUB.

This man, aged 69, born in Austria, married and unemployed, has a single lesion about the size of a silver dollar on the dorsum of the right foot. The lesion has been present for more than a year. The edges are slightly elevated, and there is a tendency for them to be slightly scalloped. Possibly owing to the location and the resultant pressure from the shoe, the patch has been kept slightly irritated and there is a moist discharge from the surface. Microscopic examination of a section showed a well localized lesion in the epidermis. In this area the rete pegs were acanthotic. The suprapapillary plates were very thin, and the epidermis was covered with a parakeratotic scale. There was a dense inflammatory exudate containing numerous dilated blood vessels directly under this area. Marked dyskeratosis of the epidermis and a pronounced variation in the size and shape of the prickle cells were seen. In the upper level of the rete there were many cells showing ballooning degeneration. Only the remains of the nuclei were seen. There were a few mitotic figures. The change in the epidermis was definitely beyond that seen in a pure inflammatory reaction.

DISCUSSION

DR. FRED WISE: I think that the diagnosis of Bowen's disease is acceptable clinically. The tissue has been macerated. It has not the typical syphilis-like appearance of Bowen's disease; in that condition there is usually some evidence of growth which resembles a granuloma or a gumma. However, on the whole I believe that in the absence of more pronounced clinical changes the diagnosis of Bowen's disease should be accepted.

DR. HERMANN FEIT: Darier emphasizes that the diagnosis of Bowen's disease is made too often. He thinks that that diagnosis is not justified unless the histologic section shows an intra-epithelial epithelioma. The question which is not yet settled is whether the multicentric epithelioma of Jadassohn is identical with the epithelioma which Darier labels pagetoid, meaning that that epithelioma resembles the lesion in Paget's disease. No enlightenment on this point can be obtained. Darier does not give any histologic description of what he calls pagetoid epithelioma. I should like to hear Dr. Wise's opinion on that.

DR. FRED WISE: With respect to the location of this lesion, both Darier and Bowen have described cases in which it occurred near the ankles. Thus the location of the disease on the foot is by no means rare. As to the histologic diagnosis, the description which I read on the sheet was not sufficiently clear—at least not for me—to make it possible to determine what kind of a growth is present. I think that the term pagetoid epithelioma has been discarded by pathologists.

SUPERFICIAL BASAL CELL EPITHELIOMA (PAGETOID)? Presented by DR. HERMANN FEIT.

This white man, aged 59, a laborer, born in the United States, had smallpox fifty years ago. He is presented on account of a lesion in the middle of the back which began five years ago. This is a patch 2½ inches (6.35 cm.) in diameter, bluish red and scaly, with a sunken center and a slightly raised border. It is atrophic in the middle and hyperkeratotic in the remaining parts. The report of the biopsy stated that the condition is multicentric epithelioma (pagetoid).

DISCUSSION

DR. FRED WISE: Does the word pagetoid refer to the clinical manifestation or to the histologic appearance?

DR. HERMANN FEIT: So far as I can make out from Darier's description, the designation pagetoid is clinical, but Darier makes it a point not to confuse this condition with Bowen's disease, a confusion which is often encountered. The pagetoid lesion is superficial and not an intra-epithelial epithelioma.

DR. HERMAN GOODMAN: Ought one not to refer to the man who names a disease or after whom a disease is named (eponym) correctly? Sir James Paget described a disease of the mammary areola preceding cancer of the mammary gland. That was in 1874. I am certain that it is far-fetched to append his name to a possible manifestation of cutaneous cancer which is not positively recognizable clinically. Paget also described osteitis deformans, which is called Paget's disease (of the bone).

A CASE FOR DIAGNOSIS (CHEILITIS EXFOLIATIVA?). Presented by DR. FRANK VERO.

This man, aged 37, born in Hungary, is presented from the Vanderbilt Clinic. The duration of the lesion on the lower lip is nine months. The patient has had a recurrent scaly eruption on the arms and legs for several years. About nine months ago he noticed scaling of the lower lip with moderate swelling. Later the entire lower lip became involved, scaly and crusted. He was treated for this condition by his own physician and at clinics without much relief.

The lower lip is covered with yellowish dry scales and heaped-up crusts and is edematous. The lesion appears to be slightly infiltrated. On removal of the crusts no exudation or bleeding is noted. There is no local adenopathy. The tongue and buccal mucosa show no signs of involvement. On the arms and body there are numerous circular papules varying from the size of a dime to that of a half-dollar and scaling lesions suggesting psoriasis.

The Wassermann test, the urinalysis and the microscopic examination for fungi gave negative results. A culture for bacteria (hemolytic staphylococcus) of the lip revealed none. There was a mild reaction to an extract of Monilia albicans. The blood count showed: hemoglobin, 85 per cent; red cells, 5,500,000; white cells, 9,000; polymorphonuclear leukocytes, 66 per cent; small lymphocytes, 23 per cent; large lymphocytes, 8 per cent; mononuclear leukocytes, 1 per cent; eosinophils, 2 per cent.

The report of the biopsy was as follows: The section was not typical for psoriasis. A lymphomatous infiltration was seen in the stroma.

DISCUSSION

DR. SIGMUND POLLITZER: Clinically, of course, the condition is cheilitis exfoliativa. That does not mean anything except that a scaly inflammatory process is going on on the lip. There is little ground for assuming that psoriasis is present. I might hesitate to make such a statement if the patient had psoriatic lesions elsewhere, but he has none. The scaling is not like that of psoriasis. Seborrheic eczema occurs on the lip and gives a picture very much like this. I do not know whether an infection with Monilia can produce this picture or not.

DR. J. G. HOPKINS: The condition does not look like an infection with Monilia.

DR. A. BENSON CANNON: I saw this man a few days ago at the Vanderbilt Clinic. As Dr. Pollitzer has pointed out, the lesion resembles cheilitis exfoliativa more than anything else. The consensus at the clinic was that the heaped-up scales and inflammatory condition limited to the vermilion border of the lips were suggestive of cheilitis. I think that when the diagnosis of cheilitis has been established it would be wise to study the patient from a psychic point of view in an endeavor to determine whether the irritation of the lip is not kept up by some habit such as biting or sucking the lips, etc.

DR. ADOLPH ROSTENBERG: I also believe that the condition is cheilitis exfoliativa. I once had a patient with a lesion similar to this, and I observed him for several years. This malady is chronic and is extremely resistant to treatment. It always recurs. In the case just mentioned I finally desiccated the lip by electrocautery, and a cure resulted. I cannot see any evidence of psoriasis in this case.

DR. MARION B. SULZBERGER: I should like to ask whether there is a possibility that the lesion is lupus erythematosus of the lip. I think that this can be added to the various possible diagnoses. The man has lesions on the ears, which he said came from frost-bites. There is a lesion on one ear which is red and slightly scaly. One might look at the histologic sections again or have another biopsy made with that diagnosis in mind. Perhaps therapy with a gold compound might be tried.

DR. DAVID BLOOM: I have considered the possibility of lupus erythematosus because of the lesions on the ears, but in the cases of lupus erythematosus of the mucous membranes which I have seen the condition was usually associated with marked telangiectasia which I did not find in this case.

DR. SIGMUND POLLITZER: I suggest that the patient be treated with an ointment containing sulphur and resorcinol.

DR. JOSEPH L. MORSE: Do not the members think that the scaly patches on the arms are psoriasis?

DR. HERMANN FEIT: This man undoubtedly had psoriasis on his body for many years, and he has this crusted lesion on the lip which closely resembles psoria-

sis. Lupus erythematosus can be ruled out because the whole scale can be removed with one pull, which is impossible in lupus erythematosus. The scale separates absolutely from the underlying mucous membrane. The question of making a diagnosis of psoriasis of the lip came up before. Oppenheim in Vienna is responsible for the statement that psoriasis of the lip can be diagnosed only when there is psoriasis on other parts and by microscopic examination. Dr. Machacek has the slides and can give a detailed description. His description fits in with psoriasis.

Dr. David Bloom: I think that one should be open-minded in considering the possibility of this lesion's being psoriasis. It would be an exudative form of psoriasis, and it is known that that form of psoriasis is extremely resistant to treatment.

Dr. Frank Vero: I have considered all the diagnoses mentioned. At first a diagnosis of cheilitis exfoliativa was made because of the persistence of the condition on the lip, the resistance to treatment and the rapid recurrence after removal of the crust. On closer examination psoriatic lesions were seen on the body; these, the patient stated, cleared up every summer. They were treated recently and that is why they are not typical tonight.

Pseudoxanthoma Elasticum? Presented by Dr. Joseph L. Morse.

This woman, aged 63, is presented from the dermatologic service of the Hospital for Joint Diseases. She has had the lesion now seen for as long as she can remember, and no change has taken place. On the right shoulder blade there is a palm-sized area which presents a reticulated appearance. It is made up of many large, flat, cream-colored, soft nodules of the size of a pinhead. Most of these are quite discrete, but many have coalesced. The skin is wrinkled and relaxed. Scattered throughout are several pea-sized yellowish xanthoma-like nodules. At the lower part of the lesion there are a few hemorrhagic lesions like lymphangioma circumscriptum. No biopsy has as yet been made.

DISCUSSION

Dr. Charles Wolf: This is an interesting case. The first impression is that there is a xanthomatous element. On questioning, I obtained the history that the patient has had the lesion for as long as she can remember. It is unilateral, and it fits into the group of nevi with a lipomatous element. If a histologic examination were made one might find a fatty infiltration in some of the nevus cells. The lesion could be called a nevus with a lipomatous element, or nevus lipomatosus.

Dr. Fred Wise: Naturally without a histologic examination it is somewhat difficult to say what the lesion is. At first glance, of course, it resembles lymphangioma circumscriptum because of the location, duration, general configuration and other characteristics of the lesion, but on closer inspection one sees a true xanthomatous element, if the word "xanthomatous" is used as meaning "yellow." My main object in discussing the case is to say that the condition does not resemble pseudoxanthoma elasticum. It has not the characteristic striations. It would be interesting to get a picture of the eyegrounds in a case like this to find out whether there are angioid streaks. The histologic picture would, of course, be interesting. I agree with Dr. Charles Wolf that the lesion is nevoid.

Dr. Paul Gross: Besides the xanthomatous element which Dr. Wise described, the patch shows in the lower part a few lesions like vesicles out of which fluid has been expressed. The lesion can be accepted as a lymphangioma undergoing some degeneration. I doubt whether the histologic picture will demonstrate sufficiently the lymphangiomatous nature of the condition.

Dr. Sigmund Pollitzer: In this case a diagnosis without a histologic examination is necessarily pure guesswork.

DR. HERMANN GOLDENBERG: I should unhesitatingly make a clinical diagnosis of lymphangioma circumscriptum.

DR. JOSEPH L. MORSE: Because this is the last meeting of the year and I saw the patient only a few days ago, I thought it would be well to present her and to have a biopsy made later. I suggested the diagnosis of pseudoxanthoma elasticum because the lesion does have the appearance of xanthoma and I could not classify it as lymphangioma circumscriptum. The wrinkled appearance of the skin is rather suggestive of pseudoxanthoma elasticum, but I cannot explain the xanthoma-like lesion. All in all, I cannot make an absolute diagnosis.

A CASE FOR DIAGNOSIS (SYPHILIS? PEMPHIGUS?). Presented by DR. HERMANN FEIT.

This woman, aged 53, born in England, is presented from the Vanderbilt Clinic. She complains of an eruption on the back, chest, neck and face of one year's duration. Ten years ago she received antisyphilitic treatment for secondary syphilis. Her skin was clear until one year ago, when the lesions for which she is presented developed.

On the right side of the neck, behind the ears and on the back, chest and left flank there are crops of lesions ranging from reddish papules the size of a pea to lesions from 2 to 3 cm. in diameter with broken-down centers and dry crusting.

Microscopic examination showed marked hyperkeratosis. Superficial vesicle formation had occurred. Acanthosis and edema were marked. There was a pronounced though superficial infiltration of plasma cells in the corium. Chromatophores and large mononuclear cells were also seen. The histologic diagnosis was syphilis.

DISCUSSION

DR. ISADORE ROSEN: I do not question that the patient has an old syphilitic infection, but the lesions which are present this evening do not impress me as those of any familiar type of syphilis. I believe that the patient is suffering from benign pemphigus. The lesions are erythematous, slightly moist and scaly, the moisture in all probability being due to the rupture of superficial bullae. This picture is often seen in cases in which a differential diagnosis between pemphigus and other bullous diseases has to be taken into consideration. Despite the fact that the patient has had this condition for from one an a half to two years and that there are no oral lesions, I still incline to that diagnosis. The use of iodized table salt must also be considered. I recently saw at the clinic of the New York Post-Graduate Medical School and Hospital a woman, aged 45, who had lesions similar to those of this patient and who on investigation was found to have used iodized salt for an indefinite period. She discontinued using the salt; while she is slightly improved, sufficient time has not yet elapsed for the iodine to be entirely eliminated, and I am therefore not in a position to say whether the iodine was responsible for her condition.

DR. ADOLPH ROSTENBERG: I had an opportunity to observe this woman for at least four years at the Sydenham Hospital. She has had the condition for several years. When I saw her at that hospital she had as many lesions as she has now.

She has never had any bullous lesions. The eruption begins with a small macule which enlarges to the present size, and then a crust forms. The crust can be wiped off with a tongue depressor, leaving an oozing surface underneath. A biopsy was made, but it showed only an inflammatory reaction. The Nikolsky sign was absent.

The patient states that she had syphilis, but no syphilitic lesions were ever observed. She received antisyphilitic treatment, but the lesions did not clear up. Various diagnoses have been made by different dermatologists—syphilis, pemphigus, the Senear-Usher syndrome, etc. The condition may be benign pemphigus, but I hesitate to accept that diagnosis.

DR. J. G. HOPKINS: How much antisyphilitic treatment did the woman receive?

DR. ADOLPH ROSTENBERG: I think that she had about four or five injections of arsphenamine and perhaps eight or nine injections of bismuth. She had had additional antisyphilitic treatment before I saw her.

DR. EUGENE F. TRAUB: This patient's case fits in a group of cases of which my colleagues and I have seen a large number in the last few years. The distribution of the lesions is in the areas in which seborrhea typically occurs, and at first glance the diagnosis of seborrheic dermatitis suggests itself, but on careful inspection the crusted lesions are seen to be dried, superficial blebs. In recent years the label Senear-Usher type has been given to this relatively benign chronic type of pemphigus. In some of the cases the condition resembles lupus erythematosus with bullous lesions. The lesions of the patient presented tonight do not suggest the possibility of lupus erythematosus but seem to fit in with the description of the Senear-Usher type of benign pemphigus. The lesions are localized in the seborrheic areas, but I am certain that a microscopic examination would show all the crusted lesions to be bullae.

DR. HERMANN GOLDENBERG: I want to support the contention of Dr. Rosen that the patient has pemphigus, notwithstanding the absence of the Nikolsky sign and the absence of lesions in the mouth.

DR. FRED WISE: I agree with the remarks made by Dr. Rosen. I do not see any reason why one should be reluctant to accept the diagnosis of benign pemphigus. The disease may be benign at present, and a month from now it may be malignant. The patient may die, or she may recover. Judging from the appearance of the lesions, the disease may remain benign in this case. The term benign pemphigus was used a long time ago. Among the authors who described it were Kreibich and several others whose work appears in the foreign literature. This patient, as Dr. Traub said, does not have any lesions which resemble lupus erythematosus. All dermatologists see patients who have eruptions like this one and in whom malignant pemphigus develops later. I believe that the term benign pemphigus should be used to designate cases of this kind. Another differential point is that patients with vesiculobullous lupus erythematosus frequently have leukopenia.

DR. A. BENSON CANNON: I saw this patient the other day when she was first admitted to the Vanderbilt Clinic, and from the appearance and location of the lesions we did not hesitate to call the condition benign pemphigus. I think that most of the men who saw her at that time agreed that the condition was benign pemphigus.

DR. DAVID BLOOM: I had the impression, as Dr. Traub did, that the lesions on the face are scaly and those on the body, crusted, which is the picture I have seen in cases of the Senear-Usher type of pemphigus in which the diagnosis was confirmed by a biopsy of one of the crusted lesions on the body. This does not contradict the assertion that this is a benign type of pemphigus because the Senear-Usher type may be the same as what was called benign pemphigus.

A CASE FOR DIAGNOSIS (MORPHEA-LIKE TUBERCULOSIS CUTIS? MORPHEA?). Presented by DR. EUGENE F. TRAUB.

This woman, aged 30, was presented before the New York Dermatological Society on April 24, 1934 (ARCH. DERMAT. & SYPH. **30**:902 [Dec.] 1934). Since then the following microscopic examinations have been completed: The first biopsy showed that in the upper corium there were islands of cellular exudate, many of which contained giant cells that were either of the foreign body type or of the Langhans type. Many closely resembled both. There was a zone of dense connective tissue which appeared acellular. The changes were present throughout the depth of the corium down to the hypoderm as well as in the epidermis. The epidermis was thin and without rete pegs. The basal cells and some of the prickle cells showed a slight deviation from the normal. In the upper part of the corium and separated from the epidermis by a narrow zone of normal connective tissue was

a row of focal inflammatory areas. Some were perivascular; others were not but most of them contained giant cells, many of which resembled those of the foreign body type. They also contained lymphocytes and connective tissue cells. Similar areas of inflammatory exudate as well as isolated giant cells were scattered throughout the entire corium. There was no necrosis. There were also a few islands of closely packed lymphocytes. Between these inflammatory zones there was collagen. The fibers were swollen and had lost their normal contours. The changes were like those seen in scleroderma. With the Van Gieson stain the fibers took on a dull opaque red. The Weigert stain showed broken elastic tissue fibers throughout the whole section. A diagnosis of the inflammatory stage of scleroderma was made.

At the second biopsy the lesion was similar but the areas of the diseased collagen were larger. The epidermis showed somewhat more atrophy. The changes in the prickle cells consisted of perinuclear spaces and irregularities in the size and shape of the cells. The location of the cellular exudate was similar to that observed in the previous section. The cells again consisted of lymphocytes, young connective tissue cells and large numbers of giant cells. There seemed to be a slight irritation of the walls of the blood vessels. The connective tissue above the small arteries appeared increased. The Van Gieson stain showed the connective tissue fibers in the upper portion of the corium to be fine and separated by interstitial edema. Many of the inflammatory areas were surrounded by a similar fine network of collagen. The large islands of collagen fibers were dense and heavy.

Complete chemical examinations of the blood gave normal results, the interesting feature being that the blood sugar on each occasion was 80 mg. per hundred cubic centimeters or less. The values for cholesterol per hundred cubic centimeters were as follows: whole blood, 125 mg.; serum, 155 mg.; plasma, 146 mg. The Wassermann and Kline tests were negative. The reactions to the tuberculin test were: 1:1,000,000, negative; 1:100,000, negative; 1:10,000, negative; 1:5,000, weakly positive; 1:1,000, strongly positive.

A careful medical examination showed no active tuberculosis, although there were several scattered calcified tubercles in the lungs and slight increase of peribronchial markings.

DISCUSSION

Dr. R. H. Rulison: I saw the patient once before, and I am inclined to accept the diagnosis of morphea. I think that the lesion has a curious color.

Dr. Samuel M. Peck: Dr. Traub showed me some of the slides. There are structures which resemble tubercles. The hematoxylin and eosin stain revealed no changes suggesting scleroderma. From the histologic picture alone it is difficult to make that diagnosis. Clinically the condition resembles scleroderma more than tuberculosis.

Dr. Else A. Barthel: My description is given in the record. I firmly believe that the condition is morphea rather than tuberculosis in spite of the fact that the tubercles are much like those of tuberculosis.

Dr. T. J. Riordan: I should like to have Dr. Barthel explain the tubercle formation. On what ground does she base her opinion?

Dr. Else A. Barthel: I think that this is a reaction of the foreign body type. A foreign protein often produces a tubercle-like reaction.

Dr. T. J. Riordan: Given a foreign body reaction or giant cells of the foreign body type, the condition both clinically and histologically makes me think that a diagnosis of necrobiosis lipoidica diabeticorum should be considered.

Dr. Marion B. Sulzberger: I agree in the main with what Dr. Riordan said. I think that it is essential in this case to rule out the possibility of one of the intracellular or extracellular cholesteroses, especially necrobiosis lipoidica diabeticorum. Deposits of cholesterol do act as foreign bodies and create foreign body reactions, particularly when the deposits are extracellular. Urbach described the occurrence of giant cells in necrobiosis. In order to find the cholesterol one

would have to fix the tissue of the next biopsy specimen in a fixative that does not dissolve lipids and use a differential stain such as sudan III.

Clinically this condition, with its resemblance to morphea and to sarcoid, but with its features which are absolutely atypical for both of these diseases, presents, to my mind, the exact clinical picture of necrobiosis lipoidica, as shown by the photograph presented by Urbach (in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1932, vol. 12, pt. 2, p. 354). Whether this condition can exist without diabetes or whether this patient will prove to have a disturbed sugar and lipoid metabolism is an interesting question which the presenter will soon be able to answer.

DR. PAUL GROSS: I presented a patient two months ago with the same diagnosis and almost identical lesions. I never saw a closer resemblance. At that time I was trying to establish a diagnosis of morphea and some xanthoma-like degeneration because a positive result had been obtained with the sudan stain. One is almost inclined to think of a new disease or of the condition Dr. Sulzberger mentioned, i. e., some peculiar type of deposits of cholesterol producing a foreign body reaction. Dr. Traub told me that he recently saw a case in Burlington, Vt., with the same picture as this.

DR. SAMUEL M. PECK: It is difficult to consider necrobiosis from the appearance of the histologic section, as there is no evidence of either necrosis or lipoid infiltration. Even in xanthoma with the ordinary fixation one can see where the cholesterol esters have been.

DR. ISADORE ROSEN: I think that from the clinical appearance of this lesion and the histologic report I should be inclined to make a diagnosis of the morphea type of sarcoid. In the few cases that I have seen that disease closely resembles this condition. The histologic picture would verify that diagnosis.

DR. EUGENE F. TRAUB: When I first examined this patient I believed that I was dealing with a case of morphea in which the various lesions were grouped on the anterior surfaces of both legs. There were several unusual clinical features, namely, the peculiar waxy yellow color in the central part of the plaques and the superficial blood vessels crossing through these areas. This feature was so pronounced that it could not be overlooked, and certainly it is not usually present in ordinary cases of morphea. The report from the laboratory on several sections removed for microscopic analysis seemed to confirm that diagnosis, but, on the other hand, a number of features were definitely unusual, namely, the presence of a large number of giant cells of either the foreign body or the Langhans type, together with an inflammatory reaction which suggested a sarcoid or tuberculous structure. Frieboes, under the title "acrodermatitis atrophicans (Herxheimer)" or "dermatitis atrophicans idiopathica," described an eruption occurring in linear arrangement on the legs, in which a nodular lesion develops which subsequently becomes atrophic and which may present a tubercle-like structure.

KOILONYCHIA. Presented by DR. HERMANN FEIT.

This schoolboy, aged 14, has had the usual diseases of childhood. He has lesions on the thumb of the right hand and the fourth finger of the left hand which have been present for two years. The nails in the aforementioned regions are concave, show longitudinal ridges and are discolored. The toe-nails are unaffected. The mother of the patient presents the same condition, located on the thumb of the right hand. When she was 16 years old all her finger-nails were affected, and all those nails came off.

DISCUSSION

DR. A. C. CIPOLLARO: I consider that both of the patients presented have typical koilonychia. In a case which I reported there was a familial history. The disease occurred in one sister and in the mother of the patient. When I reviewed the literature I found that in most cases the condition is either hereditary or acquired. The patients in the group with acquired koilonychia were those whose occupation

entailed exposure to strong alkalis or acids. Koilonychia may therefore be considered as an occupational disease. In most cases the etiology cannot be definitely determined. The cases which have occurred in association with other diseases, such as psoriasis, eczema and onychomycosis, are probably examples of pseudokoilonychia and not true koilonychia. True koilonychia has been known to occur in patients with syphilis. Dr. Howard Fox and Dr. Varney have reported such cases. Koilonychia may also occur in association with a systemic disease, such as thyroid dysfunction, and it may be found in persons with occupations other than those in which alkalis or acids are used, for example, in chimney-sweeps.

DR. HERMANN FEIT: On looking up Heller's description of this condition I found that he described familial cases of this condition. Dr. Cipollaro makes a distinction between koilonychia and pseudokoilonychia. If I understand the presentation correctly, the case under consideration is one of true koilonychia. Wilson and some one else have described cases which have appeared in several members of a family. The patient's mother has the same condition, incidentally on the same finger as the boy, and has had it since her childhood.

NEW ENGLAND DERMATOLOGICAL SOCIETY

J. HARPER BLAISDELL, M.D., *Secretary*

April 11, 1934

RUDOLPH JACOBY, M.D., *President*

A CASE FOR DIAGNOSIS. Presented by DR. BERNARD APPEL, Boston.

This girl, aged 11 years, has a solitary red patch on the left arm which has been present for three months. The patch at first was round, sharply outlined, itchy and slightly scaly; it slowly grew larger until in five weeks it was about 1½ inches (3.8 cm.) in diameter. Then four or five similar but smaller discrete lesions appeared on the body. About three weeks ago small scaly oval macular lesions appeared about the neck and slowly spread over the trunk, running along the lines of cleavage of the skin. Several small scaly lesions also appeared on the scalp but without alopecia. There are few lesions below the elbows and the knees. No improvement followed the use of crude coal tar, oil of cade or calamine lotion, or baths of starch or of sodium bicarbonate.

DISCUSSION

DR. HARVEY P. TOWLE, Boston: I suggest that the condition belongs in the parapsoriasis group. The disseminated, scaling erythematous lesions and their distribution are suggestive of parapsoriasis.

DR. ARTHUR M. GREENWOOD, Boston: I suggest a diagnosis of scabies. The patient has characteristic lesions on the hands and palms.

DR. LORETTA J. CUMMINS, Boston: I agree with Dr. Greenwood. I saw the patient at the time he did.

DR. HARVEY P. TOWLE, Boston: I think that a new disease has been discovered—scabies of the scalp. The scalp is completely covered by an eruption similar to that on the shoulders. I do not dispute the evidence of scabies. It is even possible that the scaling of the upper part of the trunk was aggravated by sulphur. Nevertheless, I believe that there is more to the condition than a dermatitis caused by sulphur.

DR. ARTHUR M. GREENWOOD, Boston: Has any one seen parapsoriasis of the palms?

Dr. Frederick S. Burns, Boston: Being mindful of the differentiation from parapsoriasis in this case, I should say that I did not consider the possibility of scabies. In spite of the duration of the process, the distribution of the lesions, their annular shape and a certain tendency to follow the lines of cleavage over the scapular regions prompt me to offer the diagnosis of protracted pityriasis rosea. Such cases are not unknown. With the continued duration the primary characteristics of pityriasis rosea become more or less obscured by the infiltration of the lesions.

Dr. Clara Fitzgerald, Worcester, Mass.: I also made a diagnosis of pityriasis rosea in this case. Is it not unusual for the typical initial lesion to be located on the arm?

Dr. J. Harper Blaisdell, Boston: I concur with the diagnosis of pityriasis rosea. I should like to offer something as regards the irritation and long-continued process. The patient's mother stated that the lesions started with a spot on the arm, which was diagnosed as ringworm by the physician. An ointment was applied for two or three weeks, but the condition did not improve. A stronger ointment was tried next. It was not until recently that a soothing treatment was used. Pityriasis rosea can be prolonged and lesions such as are shown by this child can develop.

Dr. Arthur M. Greenwood, Boston: My statements are based on the fact that the patient has characteristic lesions on the palms, between the fingers and on the folds of the wrists.

Tinea Barbae. Presented by Dr. John G. Downing, Boston.

This farmer, aged 38, has been engaged for three months in C. W. A. work, cutting down nests of browntail moths and painting the nests of gypsy moths. In January, during his first months of work, he first noticed a round white spot on the right side of his neck. It looked like a spot of soap. It was as large as a bean but did not protrude. A month later the spot had spread to the right side of the face and to the left side of the neck. At this time the patient was taking care of his cow, which had a scale on its head and a scab on its udder. The patient was subsequently treated by two physicians without improvement. His condition was diagnosed as impetigo. In March the patient entered the Boston City Hospital, where he remained for two weeks. He stated after discharge that he had not noticed the scab on the cow's udder until after returning from the hospital.

There is now an eruption on the neck which covers an area 1 inch (2.5 cm.) in diameter from the left of the median line to the right ear. There are two small lesions on the right cheek. On the neck there is a border-like infiltration, the borders being U-shaped, the base toward the center of the neck. The lesion is elevated almost ½ inch (1.27 cm.) and is bright red, and purulent material oozes through multiple pinhead-sized holes. The lesions on the cheek are also elevated, are about ¾ inch (1.9 cm.) in diameter and are somewhat verrucous. Chlorinated soda has been applied externally and potassium iodide given internally.

DISCUSSION

Dr. John G. Downing, Boston: This patient was originally seen by Dr. Appel in the ward. The lesions at first looked like those of actinomycosis. Hyphae and spores were observed microscopically. I expect at the next meeting to show the cultures and the slides which were made.

Dr. Bernard Appel, Boston: One interesting phase of this case is the remarkable improvement which followed the administration of potassium iodide. At first I considered giving the patient an epilating roentgen radiation. However, he was finally given two intravenous doses of sodium iodide followed by saturated solution of potassium iodide.

LUPUS VULGARIS OF THE NOSE. Presented by DR. E. LAWRENCE OLIVER, Boston.

This woman, aged 24, complains of an eruption of the mucous membranes and of the skin of the nose which has been present for two years. Six months ago a lesion appeared on the outside of the nose; it now covers the entire end of the nose. The patient had diphtheria at the age of 12 years. Eight years ago she was operated on for draining glands of the neck.

The distal third of the nose is thickly studded with dark red nodules, some measuring 5 mm. in diameter. There is no definite swelling. On diascopy the nodules had an apple jelly appearance. The lesion extends into the nasal passages and over the septum. Much crusting is present in the nose. The patient is four months pregnant.

The blood count showed 4,800,000 erythrocytes, 11,500 leukocytes, 71 per cent polymorphonuclears, 24 per cent lymphocytes, 1 per cent eosinophils and 4 per cent mononuclear leukocytes. The blood smear was normal. The urine was normal. The Hinton test for syphilis was negative.

The patient has been given the Gerson diet and a diet salt containing sodium potassium, calcium, magnesium, chloride, sulphate, phosphate and lactate.

DISCUSSION

DR. E. LAWRENCE OLIVER, Boston: I present this patient primarily because of the unusually large nodules on the nose, in the mucous membranes and on the septum. These first appeared on the inside of the nose (which, I think, is unusual) and spread to the outside. The development has been rather rapid. The patient is pregnant, and that may have something to do with the severity of the condition at this time.

DR. BERNARD APPEL, Boston: I suggest for treatment, if nothing better is available, methylthionine chloride, U. S. P. (methylene blue), in large doses. I suggest this because Dr. Boris Greenberg has used it in cases of tuberculosis of the urinary tract with striking results and improvement. Dr. Greenberg is using it in some cases of lupus vulgaris in the state institutions. He uses 2 per cent methylthionine chloride in a base of hydrous wool fat locally and gives as much as 8 or 10 grains (0.5 to 0.65 Gm.) of methylthionine chloride by mouth per day, reducing the dosage when symptoms of gastro-intestinal irritation develop.

DR. J. H. SWARTZ, Boston: I tried the ointment alone without improvement.

DR. JOSEPH MULLER, Worcester, Mass.: I saw a good many cases of lupus in Hungary, where the malady is endemic. I think that the best results are obtained by destroying the nodules with the actual cautery, followed by application of pyrogallol ointment and sustaining treatment.

DR. VINCENT J. RYAN, Providence, R. I.: In treating a condition of this type one should bear in mind that it is possible for lupus vulgaris to undergo carcinomatous changes. The patient has a lesion in the nose, and I feel that a radical operation is justified, followed by plastic repair.

DR. E. LAWRENCE OLIVER, Boston: I agree that a plastic operation or a thorough destruction of the nodules is indicated.

DR. JOHN G. DOWNING, Boston: I believe that the first case of lupus vulgaris I saw was in a girl who had a condition similar to this. Dr. Burns carried out a thorough curettage, and I did not see her again until a long time thereafter, when she showed a wonderful improvement. I think this would be the ideal procedure in this case.

DR. C. GUY LANE, Boston: I recommend the same method. Some years ago in cases of lupus vulgaris of the face Dr. Burns employed curettage followed by the application of iodine. I think that some of the best results I have ever seen from the treatment of lupus vulgaris were obtained by this means in some of the cases under his direction at the Massachusetts General Hospital. I believe that this method should be considered in this case.

DR. J. HARPER BLAISDELL, Boston: Almost a quarter of a century has passed since Dr. Burns and I used the curet in cases of lupus. I think that nothing is more advantageous than this instrument when it is vigorously wielded.

MAJOCCHI'S DISEASE: PURPURA ANNULARIS TELANGIECTODES. Presented by DR. J. H. SWARTZ, Boston.

This woman, aged 55, has had a slight chronic cough for years and menopausal symptoms for about six years. She entered the dermatologic clinic of the Beth Israel Hospital on March 1, 1934, complaining of spots on her legs. Physical examination gave entirely negative results except for the blood pressure, which was 150 systolic and 90 diastolic. Purpuric spots of irregular size were distributed over the lower half of both thighs medially and on the legs. An egg-sized, inflamed mass was present over the lower part of the right thigh anteriorly. On March 19 the patient appeared to be somewhat improved. A biopsy was performed on March 26. By April 2 pigmented spots had replaced the purpuric areas. The inflammatory mass had disappeared.

Urinalysis gave negative results. The blood serum was normal on two occasions. The bleeding time was one and one-half minutes; the clotting time, six minutes. The blood count showed: 4,960,000 erythrocytes, 69 per cent hemoglobin (Sahli), 8,550 leukocytes, 52 per cent polymorphonuclears, 40 per cent lymphocytes, 7 per cent monocytes, 1 per cent eosinophils and 347,200 platelets. The basal metabolic rate was + 15 per cent.

Two small pieces of skin, each measuring about 0.5 cm. in diameter, were removed for biopsy. They were yellowish purple, and the undersurfaces were slightly ragged and granular. They felt soft. They were too small to section in the gross.

Microscopic examination revealed that the surface was covered by a rather thin layer of cornified stratified squamous epithelium. The basal cell layer was regular and well defined. The rete pegs were not prominent. The dermis below the stratified squamous epithelium was somewhat edematous, and the fibrils of connective tissue appeared to be fragmenting. Some hyalinization of the small fragments appeared to be taking place. The smaller blood vessels of the corium appeared to be thrombosed, and there was lymphocytic infiltration about them. Some fibroblastic proliferation had also occurred about these blood vessels. Still deeper the larger vessels, especially the arterioles and smaller arteries, revealed endothelial proliferation with subsequent narrowing of the lumens. Some recanalization of the lumen of a small artery was seen. This vessel also had a lymphocytic infiltration about it. The veins showed thrombotic changes and fibrosis of their walls together with lymphocytic infiltration. All of the vessels appeared to be somewhat dilated. No hemorrhage into the surrounding tissue could be seen. In the corium a rare phagocytic cell with a few yellowish granules was seen. A few brownish granules were noted in the basal cells of the epithelium. No hyperkeratosis, parakeratosis or acanthosis was observed. A diagnosis of purpura annularis telangiectodes was made.

DISCUSSION

DR. J. H. SWARTZ, Boston: The lesions are much fainter than they were when I first saw the patient. The microscopic slide made me favor the diagnosis suggested. One vessel was almost completely thrombosed. The perivascular infiltration involving particularly the blood vessels about the sebaceous and sweat glands is marked. As the condition is rather rare in females, I presented this patient.

DR. VINCENT J. RYAN, Providence, R. I.: Majocchi's disease is extremely rare. It is unfortunate that this patient does not present a clearer clinical picture. I hope that if she has a recurrence Dr. Swartz will present her at a future meeting.

LICHEN NITIDUS. Presented by DR. BERNARD APPEL, Boston.

This colored boy, aged 12 years, has had an eruption for two years. When it was first noticed it consisted of a few small wartlike lesions about the anus and genitals. In a report on a biopsy made at another hospital the lesion was said to be "consistent with lichen planus." Strychnine and arsenic were administered without effect. Six months ago lesions appeared on the chin and about the mouth. Soon afterward lesions began to appear on the neck, axillae, entire upper extremities, groins, genitals, popliteal areas and feet.

When the boy was 1 year old his mother died of tuberculosis. His father had a cerebral hemorrhage. When the patient was 3 a drainage operation was performed for cervical tuberculous adenitis. He had convulsions within a month, and they ceased in about two weeks. Tonsillectomy and adenoidectomy were performed one year later.

The lesions appear to be essentially alike, varying only in size and degree. On the eyelids, at the corners of the mouth and on the chin are closely placed lesions, discrete papules from 0.5 to 1.5 mm. in diameter. In the supraclavicular areas they are slightly larger, shiny and more readily palpable. Some of the papules are 3 mm. in diameter. They extend around the neck and over both axillae, diminishing toward the shoulder, where they are more shiny and more purplish. Lesions that are somewhat larger and more raised are present on the flexor surfaces of both arms and forearms, especially in the bend of the elbow and in increasing numbers on the wrists and the palms and the backs of the hands. A few are slightly scaly, but most of them are shiny. At the site of the Mantoux test on the middle of the left forearm, pigmentation is present. No lesions are present on the back. There are a few rare lesions on the abdomen, gradually increasing over the inguinal and genital areas and on the thighs and buttocks, accentuated in the popliteal areas, diminished on the legs and again numerous on the feet down to the toes.

Urinalysis gave negative results. The Kahn test was negative; the Mantoux test was strongly positive. Roentgen examination of the chest gave negative results. The abdomen showed large calcified nodes in the left upper quadrant. A biopsy was performed, and a diagnosis of lichen nitidus was made.

The patient has been given a diet rich in vitamins.

DISCUSSION

DR. JOHN G. DOWNING, Boston: I saw the patient two years ago, and at that time he presented a textbook picture of lichen nitidus. The patient was much thinner then, and the lesions were different from those seen today. They were practically all of the same size, slightly elevated, flat and distributed over the abdomen, a few being present on the extremities. They were of the same color as the body. The entire shaft of the penis was studded with similar papules. Material for biopsy could not be obtained at that time. No history of tuberculosis in the family was obtained.

DR. LORETTA J. CUMMINS, Boston: I saw the patient for the first time at the Children's Hospital two years ago. The lesions were then limited to the genitals and the lower part of the abdomen; a few were present on the face. At that time a biopsy was performed, and the diagnosis was lichen planus. I made the diagnosis from the lesions of the face. At the time of the second visit, I made a diagnosis of lichen nitidus. Today the eruption is much more extensive.

DR. J. H. SWARTZ, Boston: The pathologic condition present today does not favor the diagnosis of lichen nitidus. There is no flattening of the rete or evidence of giant cells of the Langhans type. Clinically, I do not know what it is.

DR. MAURICE J. STRAUSS, New Haven, Conn.: This case is extremely interesting because Dr. Cummins states that previously when the patient showed a typical clinical picture of lichen nitidus the biopsy material was reported as presenting changes consistent with lichen planus. Today, when the section shows lichen

nitidus, the clinical appearance of the eruption is certainly far from typical of that disease. In regard to the biopsy material, I do not know which end of the section Dr. Swartz looked at. At one end of the section the infiltration is not typical, but at the other end there are two collections of lymphoid and epithelioid cells directly beneath the epidermis with the papillae broadened and flattened. This seems to me to warrant the diagnosis of lichen nitidus, although I did not see any giant cells.

DR. BERNARD APPEL, Boston: One interesting clinical feature is that in the routine examination of the child, who was in the pediatric service, an unusually violent reaction to the Mantoux test was obtained. At the site of the test there developed a group of transitory papules which resembled in their clinical appearance the early stage of these lesions when the boy was seen two years ago. They have since, however, faded out. Now only the usual type of increased pigmentation and slight scaling remain. I am sorry that Dr. McCarthy is not here. He found a deeper section in the same block of tissue which showed a more characteristic picture. I thought that one part of the section that was shown was characteristic of lichen nitidus.

DERMATITIS EXFOLIATIVA: INFECTIOUS MONONUCLEOSIS (?): LYMPHATIC LEUKEMIA (?). Presented by DR. JOHN G. DOWNING, Boston.

This woman, aged 49, stated that four months before admission to the hospital swelling of the hands developed. Vesicles 1 cm. in diameter appeared which broke and discharged a watery fluid, later becoming purulent. At about this time similar lesions appeared on the feet and on the legs below the knees. The condition on the hands healed within one month, but that on the feet and the legs persisted. One month before admission the lesions reappeared on the hands. Gradually the skin over the arms and body became thickened and scaly. The patient had had an itching of the body for two years. She had had scarlet fever at the age of seven.

At the time of admission to the hospital the skin over the entire body was moderately indurated and showed fine, dry scaling. The scales ranged in diameter from a few millimeters on the arms and the trunk to 1 cm. on the lower parts of the legs. On the right ankle was a rounded, deep-seated, bluish-purple vesicle, 1.5 cm. in diameter and 1.5 mm. thick. The soles had a thick horny layer of desquamating skin. Hard, discrete, painless glands 1 cm. in diameter were found in the cervical and epitrochlear regions. The glands of both groins were large, hard, and fairly prominent, some being 3 cm. in diameter. Dental caries was marked.

Urinalysis gave negative results. The blood count showed 26,800 leukocytes with 40 per cent immature cells of a lymphocytic or monocytic type. Later 15,800 leukocytes were present, with 10 per cent immature cells and 4 per cent eosinophils. The Kahn test of the blood was negative. The sheep cell agglutination test for infectious mononucleosis was negative. A biopsy specimen from the bone marrow showed hyperplasia of both red and white cells.

Calamine lotion was applied for two days without improvement. Hydrous wool fat was applied to the entire body daily followed by moderate relief and slow improvement.

DISCUSSION

DR. JOHN G. DOWNING, Boston: When I first saw the patient one year ago, she had typical epidermophytosis of the feet and also epidermatophytids of the hands, which gradually cleared up. Later a generalized eruption appeared. No medication had been used either externally or internally that could account for the condition. She was using only an ointment of boric acid on the feet.

DR. MAURICE J. STRAUSS, New Haven, Conn.: I do not know whether the patient has infectious mononucleosis or lymphatic leukemia, although enough evidence seems to be present to warrant the diagnosis of leukemia. At any rate, if

the second eruption is to be connected with the leukemia it cannot be called leukemia cutis but must be classified with the leukemids. However, I questioned this patient carefully, and she told me that before the onset of the eruption she had consulted a physician because of the itching and had taken three or four bottles of some medicine which he prescribed. For this reason, I think that the possibility of a dermatitis medicamentosa must be considered, and I should like to ask Dr. Downing whether there was any arsenic in that medication.

DR. JOHN G. DOWNING, Boston: I do not believe that the patient had taken any arsenic. She had been fairly well for years. The only important item in her past history was the occurrence of a slight eruption on one shin several years ago which healed promptly.

DR. WILLIAM P. BOARDMAN, Boston: I agree with Dr. Downing that there should be a biopsy of the skin. Leukemids may present an urticarial, psoriatic or eczematous appearance, but the skin does not show leukemia. In leukemia cutis the skin shows the leukemic changes, but a diagnosis of leukemia cutis cannot be made without a biopsy. I do not know whether any case of generalized scaling erythrodermia in association with infectious mononucleosis has been reported, but the condition has been reported in association with lymphatic leukemia, though rarely.

DR. JOHN G. DOWNING, Boston: A piece of skin and a piece of bone marrow were removed. The wound became septic and the woman had a stormy convalescence. A biopsy should be made not only on the skin but on the bone.

NODULODISCOID TUBERCULOSIS OF THE FACE AND MUCOUS MEMBRANE OF THE MOUTH. Presented by DR. JOHN G. DOWNING, Boston.

This colored man, aged 45, a fireman, states that two years ago he noticed a puffiness on the right side of the face near the eye. Later, pimples developed on various parts of the face and neck and steadily increased. Last winter similar lesions appeared on his lips. He has no complaint except for the eruption on the skin, which causes no pain or itching.

The eruption is limited to the face, neck and mucous membrane of the oral cavity (especially the inner margin of the lower lip). It is more or less symmetrical, being most marked about the eyes and the mouth. The lesions are elevated. Some are discrete, rounded papules about 3 mm. in diameter. Others are ovoid or discoid lesions with depressed centers, some as large as 2 cm. in diameter. The lesions on the face are, for the most part, superficial. On the neck are many deep-seated, reddish-brown nodules, some with a diameter as great as 1.5 cm. The larger discoid nodules show depressed centers in which there is a grayish scaling. Here and there, especially on the back of the neck, a few of the lesions have a glairy discharge, but no signs of ulceration are present. On the posterior part of the neck at the site of two wounds made in removing material for biopsy there are signs of the formation of keloids. The entire inner side of the lower lip shows definite atrophy and some dilatation at the mouths of the glands; this condition in some respects resembles lupus erythematosus of the lips. In the roof of the mouth, scattered along the midline, are papular lesions which show definite brownish pigmentation. No abnormal condition of the chest was found by means of palpation or auscultation. The face shows considerable infiltration and edema on the right side, involving the lower eyelid.

The Wassermann reaction was negative. The Hinton test was negative on two occasions. A nasal smear was negative for lepra bacilli, but the smear was not satisfactory. Roentgen examination of the chest showed a nodular thickening along the bronchi that was not characteristic of tuberculosis. Miliary metastases could not be ruled out. A lumbar puncture showed no abnormality. The colloidal gold curve was normal. On March 16 a nodule was removed from the back of the neck for biopsy. The report was that it showed discoid tuberculosis. The Wassermann reaction of the spinal fluid was negative.

The patient was given eight injections of one of the arsphenamines and a course of treatment with mercury at the Peter Bent Brigham Hospital but no change in the lesions resulted.

DISCUSSION

Dr. John G. Downing, Boston: I think that most of the members did not see what is written on the back of the sheet giving this patient's history. He came into the clinic yesterday. I found that he had been at the Peter Bent Brigham Hospital, and I received a report on the results obtained there. I do not think that this type of tuberculosis is seen often in Europe. Jadassohn's classification does not include it. It is not a sarcoid. It was recently described by Crawford (Arch. Dermat. & Syph. **27**:766 [May] 1933). Of a series of patients observed by Rauschkolb at the City Hospital, Cleveland, sixty-eight had tuberculosis of the skin, and thirty-eight of these were Negroes (Arch. Dermat. & Syph. **29**:398 [March] 1934). Most of the cases of this type have occurred in Negroes. Crawford enumerated ten cases, of which nine occurred in Negroes and one in a Chinaman. All of the patients had small nodular lesions tending to form discoid lesions, most marked on the face. They also showed a marked tendency toward the formation of keloids. In most of the cases the tuberculin test was negative.

Dr. E. Lawrence Oliver, Boston: Did you find tubercle bacilli?

Dr. John G. Downing, Boston: This type of lesion is supposed to be a tuberculid. Michelson and Winer (Arch. Dermat. & Syph. **29**:251 [Feb.] 1934) classified it under the heading of sarcoid. It cannot be truly called a sarcoid. There is no central necrosis, and the nodules are more like indurated epithelial lesions.

Chronic Pemphigus. Presented by Dr. Bernard Appel, Boston.

This woman, aged 48, has had three attacks of a generalized eruption over the entire body and in the mouth and on the tongue during the past three years. The present attack began one year ago. The attacks are characterized by the appearance of generalized blisters which break and discharge a thin serous fluid. There is little pain, but progressive weakness occurs. Each of the first two attacks lasted for several months and was followed by a remission for a few months. The third attack began with the appearance of blisters on the legs, and in the course of a few weeks the arms and then the body were involved. She has had dysphagia since the involvement of the throat. She has lost 24 pounds (10.9 Kg.) during the past three years. The menses have ceased during each attack. Her teeth have been in poor condition for several years. Her father died of leukemia.

Examination on admission to the hospital showed the entire surface of the body to be studded with red, maculopapular blisters which were pleomorphic and showed a slight tendency to be confluent. Many of the lesions were excoriated, crusted and scaling. The legs were most seriously involved, and a large shallow ulcer was located on the medial aspect of the right leg. Blebs were present on the lips and the tongue. The gums were pyorrheic, and the teeth, carious.

The urine was normal. Examination of the blood showed a hemoglobin content varying from 70 to 48 to 65 per cent. The leukocytes varied from 7.4 to 10.1 per cent. Roentgen examination of the esophagus after a barium sulphate meal showed small irregular filling defects and a smoothly outlined, irregular constriction about 2 inches (5 cm.) in length at the level of the fourth dorsal vertebra. Esophagoscopy showed a constricting band of thickened tissue with superficial ulceration. A biopsy showed normal-appearing stratified squamous epithelium.

The patient had been made worse by treatment with gentian violet and light. At the time of this admission she was given a high vitamin and high caloric diet. A calamine lotion was administered with slight relief, but with no effect

on the progress of the lesions. Five grains (0.3 Gm.) of phenyl salicylate was given three times a day, but without effect. A 1 per cent solution of gentian violet aggravated the condition and produced more blisters. Colonic irrigations had no effect. Iron and ammonium citrate improved the anemic condition. Methylthionine chloride, U. S. P. (methylene blue), 4 grains 0.26 Gm.), three times a day for seven weeks, produced a great improvement. At the present time a new blister occurs only rarely.

The patient is presented to show the esophageal lesions and the effect of treatment with methylthionine chloride.

DISCUSSION

Dr. William B. Cohen, Providence, R. I.: Will Dr. Appel describe the treatment with methylthionine chloride for chronic pemphigus?

Dr. Bernard Appel, Boston: I have no rationale for the use of methylthionine chloride. The patient has typical chronic pemphigus with frequent and almost consistent exacerbations of lesions. Since she has been given methylthionine chloride, she has remained remarkably free from symptoms. In addition, she has improved generally, with a gain in weight and an increase in appetite. The peculiar swelling in the esophagus is interesting. In the laryngologic department an esophagoscopy was made, but it did not give any information. Biopsy was of no assistance. The patient has received the usual high vitamin diet, large doses of cod liver oil and so forth.

Dr. C. Guy Lane, Boston: Dr. Appel's statement in regard to the use of methylthionine chloride reminds me of a suggestion which Dr. Pels made to me, either at the last meeting of the American Medical Association or at the one the year before, that methylthionine chloride be tried. He stated that he had had some special ampules made up for intravenous injection and wanted to have the drug tried in pemphigus.

Dr. E. Lawrence Oliver, Boston: Dr. Schamberg at one time was impressed with the improvement following intravenous injections of mercurochrome in such cases. I am not sure that all of his patients had pemphigus, but some of them did improve. One patient died soon after the first injection of mercurochrome.

MANHATTAN DERMATOLOGIC SOCIETY

Mihran B. Parounagian, M.D., *Secretary*

May 8, 1934

Howard Fox, M.D., *Chairman*

Nevus of the Scalp of an Unusual Yellow Tint. Presented by Dr. Fred Wise.

This girl, aged 16 months, has had since birth a smooth, flat, soft nevus of the left parietal region of the scalp. The parents applied for treatment of the infant at the clinic of the New York Post-Graduate Medical School and Hospital. The nevus is scythe-shaped, approximately 6 inches (15 cm.) in length and 1 inch (2.5 cm.) in width, extending from the hair line on the left side of the forehead back toward the crown of the scalp. The surface is smooth and velvety. The edges are sharply defined and faintly elevated above the niveau. The peculiar feature is the color of the lesion, which is a uniform yellow or light saffron. The parents have refused permission to perform a biopsy.

DISCUSSION

DR. GEORGE M. MACKEE: The lesion looks like an atrophic scar, but there is no history of injury at the time of birth or since. I have never seen a lesion like it. I think it is a morphea-like nevus.

DR. GEORGE C. ANDREWS: Urbach described similar atrophy in several different conditions as a form of degeneration.

DR. MAX SCHEER: It is possible that there is some degeneration of the elastic tissue in this nevus.

A CASE FOR DIAGNOSIS (LINEAR UNILATERAL HEMORRHAGIC LESIONS OF THE RIGHT LEG). Presented by DR. FRED WISE.

This man, aged 36, in good general health, applied for treatment at the Clinic of the New York Post-Graduate Medical School and Hospital on May 8, 1934. He presents an eruption on the right leg extending from the dorsum of the foot anteriorly to several inches above the knee and coursing in linear fashion over the tibia, with intervening areas of unaffected skin. The eruption appeared about two years ago, near the outer malleolus, in the form of rust-colored, nonpruritic, small discoid spots, which fused to form larger areas. Shortly after the initial spots appeared, new ones were noticed on the midportion of the anterior aspect of the leg and then on the knee and the contiguous portion of the thigh. The lesions have shown no evidence of retrogression or of involution.

The individual lesions consist of rusty-red, smooth spots, nonelevated, ranging from the size of a pinhead to that of a lentil, apparently resulting from cutaneous hemorrhages. Some of them have coalesced to form discoid areas varying in size up to that of a 5 cent piece, which are somewhat scaly. There is no evidence of a tendency toward annular formations, nor is there brownish pigment. Subjective sensations are absent. Diascopic pressure does not cause the spots to become lighter.

DISCUSSION

DR. GEORGE M. MACKEE: I think that the condition is panvasculitis. Some features suggest purpura annularis telangiectodes, but I am certain that such a diagnosis cannot be seriously entertained.

DR. FRED WISE: The patient has no rheumatic pains, no remissions and no exacerbations. The lesions are of two years' duration and have not altered in that time.

A CASE FOR DIAGNOSIS (SYPHILIS?). Presented by DR. GEORGE C. ANDREWS.

This man, aged 36, had a lesion on the penis nine months ago. He was told that a dark-field examination revealed no spirochetes, and he had no treatment. The lesion disappeared but recurred three months later. He then went to another physician, who found the Wassermann reaction to be strongly positive. At that time there was no eruption except a sore on the penis.

Antisyphilitic treatment was started two months ago. He received six injections of a bismuth compound intramuscularly and ten injections of arsphenamine intravenously, the last being given three weeks ago. He also received phenobarbital in the form of tablets. After the second injection of bismuth spots developed on his arms and legs. These have gradually increased in size and in number.

The patient consulted me first this morning. He presents a widespread psoriasiform eruption with erythematous, scaly patches on the forehead, the face, the arms and the legs. On the extensor surfaces of the arms the lesions are infiltrated and rupial. Close examination reveals that the scales are not micaceous. The lesions are granulomatous.

DISCUSSION

DR. MIHRAN B. PAROUNAGIAN: I think that the patient has recurrent syphilis, which is not an unusual phenomenon. I have, on a number of occasions, presented

patients with similar lesions before this society. In some instances the patient had not received enough treatment, in some alcohol was responsible, and in others low resistance was the cause. Most patients require building up more than antisyphilitic medication.

DR. ANDREW J. GILMOUR: The color is that observed in the typical nodules of late syphilis.

DR. JOSEPH J. ELLER: My diagnosis is syphilis.

DR. MAX SCHEER: To me, this is a case of syphilis.

DR. ISADORE ROSEN: I think that this patient is suffering from a papulosquamous syphilid. The lesions are difficult to influence by therapy because the patient was inadequately and irregularly treated in the early stage of the disease.

DR. GEORGE M. MACKEE: One is forced to make a tentative diagnosis of syphilis, but one should not hastily rule out the possibility of psoriasis.

DR. HOWARD FOX: I agree with those who consider the eruption to be a papulosquamous syphilid. The lesions have the dull, lean-ham color of syphilis, and many of them are distinct fleshy "lumps," unlike the flat, scaly lesions of psoriasis. The unusual feature is that the eruption appeared during treatment. This, however, happens at times.

DR. ANDREW J. GILMOUR: Many of the members remember the time before arsphenamine was discovered. Perhaps potassium iodide in mixed treatment would help in this case.

DR. GEORGE C. ANDREWS: I am much obliged for the suggestions as to treatment. Perhaps some of them will help. The lesions on the face were not mentioned by any one. They are flat, erythematous and psoriasiform patches. The lesions on the lower parts of the legs are quite different from those on the arms, being also psoriasiform.

A CASE FOR DIAGNOSIS (MYCOSIS FUNGOIDES?). Presented by DR. PAUL E. BECHET.

This man, aged 42, was presented before the New York Dermatological Society on Jan. 23, 1934 (ARCH. DERMAT. & SYPH. **30**:165 [July] 1934), but no definite diagnosis was suggested at the time.

During the past few months there has been considerable improvement without recourse to roentgen therapy; the infiltrated plaques have thinned considerably. Dr. Gaul found considerable copper in the skin, but a trial of treatment to eliminate the copper failed to make any appreciable impression on the eruption. The lesions so strongly suggestive of mycosis fungoides in January, are less so now. The diagnosis, therefore, is as much in doubt as ever.

DISCUSSION

DR. J. FRANK FRASER: The clinical picture suggests mycosis fungoides.

DR. MIHRAN B. PAROUNAGIAN: I favor the clinical diagnosis of mycosis fungoides on account of the extreme itching and the clinical appearance.

DR. ANDREW J. GILMOUR: My diagnosis is mycosis fungoides.

DR. ISADORE ROSEN: This is one of a group of cases in which I have been especially interested during the past few years. They all seem to run a similar course, the lesions beginning as a generalized erythematopapulovesicular eruption, often associated with symptoms resembling closely dermatitis venenata or an allergic dermatitis, which condition is especially marked on the face, ears and neck. Repeated histologic examinations do not shed any light on the clinical diagnosis, revealing merely a subacute inflammatory process. Studies of the blood give negative results except for marked eosinophilia in the early stage. As the disease progresses and the acute symptoms subside the eosinophil count shows a decided reduction. If the patient is not seen until the condition has lasted for

a number of months and if the previous history is not taken into consideration, there is a strong tendency to make a diagnosis of mycosis fungoides. I am of the opinion that the eruption shown by the patient presented here fits in with one of the atypical forms of dermatitis herpetiformis.

DR. FRED WISE: This patient has been treated by Dr. MacKee, by Dr. Sulzberger and by myself without success. I agree with those who think that the clinical manifestations resemble mycosis fungoides now, but the histologic observations did not confirm the diagnosis and roentgen therapy proved futile.

DR. GEORGE M. MACKEE: Mycosis fungoides is the only diagnosis I can make.

DR. HOWARD FOX: If Dr. Wise had seen the patient for the first time tonight, as most of the members have, would he not call the eruption mycosis fungoides?

DR. FRED WISE: In answer to Dr. Fox's question, I should call the condition mycosis fungoides were I seeing it for the first time. But Dr. Satenstein's interpretation of a section did not bear out this clinical diagnosis.

DR. MARION SULZBERGER (by invitation): It seems logical that some of these pruritic eczematous persistent dermatoses represent the prefungoid stage of mycosis fungoides. It is well known that it may take many years for such eruptions to take on the characteristic picture. This applies both to the clinical and to the histologic picture. The histologic changes in the two of Dr. Wise's patients who had a similar condition were pronounced by Professor Jadassohn as well as by Professor Miescher to be suggestive of mycosis fungoides. They made this statement on purely histologic grounds without a knowledge of the clinical features of the eruption.

DR. PAUL E. BECHET: The case still presents a problem. The improvement has occurred without roentgen therapy, which, when used early in the course of the disease, had little or no effect on it. This was, of course, a point against the diagnosis of mycosis fungoides. However, despite the improvement and the flattening of the infiltrated plaques, the disease still bears a strong resemblance to mycosis fungoides. Hospitalization has been carried out several times without the slightest benefit.

DR. GEORGE M. MACKEE: This patient has retention of copper. Copper or lead is usually found in the disseminated form of neurodermatitis. Biospectrometric examinations have not yet been made in cases of mycosis fungoides. Perhaps patients with this disease will show a retention of heavy metals.

PSEUDOPELLAGRA. Presented by DR. MIHRAN B. PAROUNAGIAN.

This man, aged 65, born in England, is a bartender. A somewhat burning but not itchy eruption developed on both hands six days ago, and when he rubbed his face with his hands the rash appeared on his face. He says that the lesions were caused by some chemical in his clothing, which was fumigated the day before the eruption appeared.

The patient has been accustomed to drinking a pint of liquor daily since Christmas of 1933. He says that he feels well except for some weakness. He has had diarrhea persistently for from eight to ten weeks, but he does not have any soreness of the tongue. He says that he has not been exposed to venereal infection and has had no previous skin disease.

The dorsal surfaces of both hands, extending from the finger-nails to the wrists, are edematous and erythematous to brownish and show some vesiculation and some branny desquamation. On the nose and extending over both cheeks in a butterfly distribution is an erythematosquamous eruption similar to that on the hands. This eruption extends up to the palpebral margins and on the left side to the external auricle. There is some erythema on the chin. Underneath the right external auricle is a solitary patch similar to the other lesions. The tongue shows moderate atrophy, and there is a tremor of the hands.

DISCUSSION

DR. ANDREW J. GILMOUR: Alcoholic pellagra is my diagnosis.

DR. GEORGE M. MACKEE: It might be well to consider the possibility of lupus erythematosus.

DR. J. FRANK FRASER: I accept the diagnosis as presented.

DR. PAUL E. BECHET: I agree with the diagnosis of alcoholic pellagra.

DERMATITIS MEDICAMENTOSA (DUE TO PHENOBARBITAL?). Presented by DR. MIHRAN B. PAROUNAGIAN.

Mrs. V. F., a woman, aged 25, on May 4, 1934, was referred to the clinic for the treatment of cutaneous diseases from the medical clinic of Bellevue Hospital because of a lesion on the left thigh of about four months' duration. The lesion had been itchy at times and oozed a whitish fluid, but it had never showed signs of spontaneous healing.

Since that time an itchy, extensive eruption has developed on the upper and lower extremities and on the trunk. She has been taking phenobarbital (½ grain [0.032 Gm.] three times a day) for five days and chloral hydrate and bromides for one day. The patient says that she has never had a sore or ulcer about the genitals or an eruption on the body. She has never been pregnant.

On the inner aspect of the left thigh, in the middle of the thigh, is a localized solitary eruption consisting of dark copper-colored nodules grouped in a circular pattern. In the center is another flatter nodule, and the background has a uniform dull, coppery hue. Some of the nodules are superficially ulcerated and show a yellowish necrotic material. There is no atrophy.

Distributed on the upper and lower extremities, chiefly on the extensor surfaces, is an extensive macular eruption from dark pink to violet. A few similar lesions are present on the body.

The Wassermann reaction was 4 plus on April 30, 1934. The basal metabolic rate was +9.8 per cent. The diagnosis is syphilis and an eruption possibly caused by phenobarbital.

DISCUSSION

DR. ISADORE ROSEN: I am of the opinion that this patient is suffering from infected molluscum contagiosum. I could discern two or three umbilicated lesions which were secondarily infected. These clinical features do not coincide with any lesions of tertiary syphilis that I am familiar with. I suggest that the lesions be examined for molluscum bodies.

DR. FRED WISE: I disagree with Dr. Rosen in his diagnosis of molluscum contagiosum.

DR. MIHRAN B. PAROUNAGIAN: I do not agree with Dr. Rosen. If Dr. Rosen had seen the patient last week he would not make that suggestion. I think that the condition is furunculosis. However, the Wassermann reaction was positive.

DR. HOWARD FOX: Although I did not see definite eruption of molluscum contagiosum I might add that the inner aspect of the thighs is one of the favorite sites of this disease.

ELEPHANTIASIS OF THE SCROTUM (POSTOPERATIVE). Presented by DR. MIHRAN B. PAROUNAGIAN.

This man, aged 27, was presented before this society on Oct. 10, 1933 (ARCH. DERMAT. & SYPH. **29**: 738 [May] 1934).

In November 1933, the patient was referred to the genito-urinary service of Bellevue Hospital, where a partial excision of the scrotum was performed.

He is presented to show the excellent results obtained by the operation in a condition that had been present for two years and had not been ameliorated by any other form of therapy.

CHICAGO DERMATOLOGICAL SOCIETY

MAX S. WIEN, M.D., *Secretary*

Regular Meeting, May 16, 1934

JAMES H. MITCHELL, M.D., *President, Presiding*

LICHEN NITIDUS. Presented by DR. MAX S. WIEN and DR. M. O. PERLSTEIN.

Mrs. A. A., aged 50, presents an eruption of one year's duration, with no subjective symptoms. She states that the eruption first appeared about both knees and gradually spread distally and proximally. The eruption on the arms first appeared at the elbows and slowly extended.

On both upper extremities are pinhead-sized, shiny papules occurring in groups. The lesions are yellow, waxy and polygonal and retain their individual contours. The lower extremities from the hips to the lower third of the legs present discrete, follicular, cayenne pepper lesions which tend to be keratotic. Discrete lesions are scattered over the abdomen, breasts and axillae, and a few are present on the shoulder.

A roentgenogram of the chest revealed a slight increase of the hilus markings in both lungs. The Mantoux reaction (with a 1 : 10,000 solution of old tuberculin) was positive. The Wassermann reaction of the blood was negative.

Histologic examination of a specimen taken for biopsy from the thigh showed a small, circumscribed mass of histiocytes and lymphocytes grouped about the duct of a sweat gland just beneath the epidermis, confirming the diagnosis of lichen nitidus.

DISCUSSION

DR. H. E. MICHELSON: This condition should be discussed from both the clinical and histologic points of view. Clinically, it does not resemble lichen planus, because the papules are very small and are orange and many of them have a central point with slight scaling. Lichen nitidus is frequently perifollicular. Microscopically, the sections are not typical of those seen in lichen nitidus, nor are the lesions in entire conformity with those of lichen planus. I suggest making a rather wide excision which takes in several lesions and then making serial sections. I think that this would make the diagnosis possible.

DR. CLARK W. FINNERUD: Histologically, the condition is more like lichen planus than lichen nitidus, although clinically it resembles lichen nitidus.

DR. MARCUS R. CARO: Histologically, the predominance of histiocytes in the infiltrate speaks against the diagnosis of lichen planus and favors that of lichen nitidus.

DR. RUBEN NOMLAND: I agree with Dr. Caro.

DR. MAX S. WIEN: Clinically, we think that the case is one of lichen nitidus, and while there may be some discussion concerning the histologic observations the evidence seems to be in favor of lichen nitidus. The case presents many of the clinical characteristics previously reported in cases of generalized lichen nitidus, which seems to show a predilection for females.

DR. UDO J. WILE: I am not familiar with the malady and wish to ask whether hemorrhage is a part of the picture in lichen nitidus. This patient has hemorrhagic lesions such as one sees in Schamberg's disease, particularly in the groins and below the ankles. I wonder whether these are seen in true lichen nitidus.

DR. H. E. MICHELSON: In answer to Dr. Wile, I have a section from a patient with lichen nitidus which shows many free red blood corpuscles in the infiltrate.

A CASE FOR DIAGNOSIS. Presented by DR. OLIVER S. ORMSBY.

This man, aged 27, was first seen in June 1933 because of a generalized pruritic eruption of six months' duration. He stated that the eruption began on the arms

and became generally disseminated. At the first examination the arms and legs were chiefly involved, although some lesions were present on the trunk and face. On the arms and legs numerous excoriated papules were noted, which in some places were grouped to form crusted patches. General physical examination revealed little change. A differential leukocyte count showed: polymorphonuclears, 64 per cent; lymphocytes, 26 per cent; eosinophils, 5 per cent, and monocytes, 5 per cent. After six weeks' observation, during which only a moderate amount of improvement occurred, the patient left the city.

He was next seen on March 27, 1934. He stated that in the interim he had been under observation and treatment in New York and Los Angeles. The general findings of Dr. Samuel Ayres were reported as follows: "Allergy and diet tests gave negative results; the blood phosphorus, calcium, potassium, magnesium and chlorides were normal. The dextrose tolerance test showed nothing abnormal; the test for arsenic in the urine showed 0.00017 mg. of this substance per hundred cubic centimeters. Examination of the blood showed 19,200 leukocytes. A differential count showed: polymorphonuclears, 78 per cent; small lymphocytes, 12 per cent; large lymphocytes, 8 per cent, and eosinophils, 4 per cent."

The dermatitis has become more diffuse, and in addition to the grouped papules and crusted patches there are numerous diffuse weeping areas. The patient complained of chilliness. The eruption is practically a generalized crusting and scaling dermatitis; there is also moderate general adenopathy.

Recent examination of the blood showed 15,100 leukocytes. A differential count showed: polymorphonuclears, 65 per cent; small lymphocytes, 10 per cent; large lymphocytes, 6 per cent; eosinophils, 14.5 per cent; transitionals, 3 per cent, and basophils, 1.5 per cent.

A gland from the inguinal region was excised; microscopic examination revealed only inflammatory hyperplasia.

DISCUSSION

DR. PAUL A. O'LEARY: Two possibilities are prominent in my mind in the differentiation of this condition: first, that of the Senear-Usher type of pemphigus and, second, that of a lymphoblastoma of the mycosis fungoides type. I am inclined to favor the latter, because some of the lesions show simultaneously various stages of development and involution, in addition to extreme pruritus.

DR. UDO J. WILE: I agree with Dr. O'Leary's interpretation but think also that the resemblance to pemphigus foliaceus is rather striking.

DR. DAVID LIEBERTHAL: At first glance one may think of pemphigus. The clinical history and closer examination, however, make such a diagnosis improbable. The treatment of patients with this disease is rather trying. At times relief may be obtained through prolonged baths.

DR. M. H. EBERT: The condition has changed markedly within the past few days. I have never seen his skin look as it does today. When I first saw him I was impressed with the idea that he perhaps had true prurigo. I have never seen so much pruritus as this man has. When I first saw him the lesions were largely traumatic papules. There was nothing that suggested pemphigus, mycosis fungoides or the Senear-Usher syndrome. I think that this change is temporary and that within a month or six weeks the condition will return to the original status. The enlargement of the glands suggests that it may be an obscure form of Hodgkin's disease, but histologic examination did not bear this out.

DR. OLIVER S. ORMSBY: Dr. Ebert brought out all the points that I think should be stressed in the résumé of the case. The chief point of interest is the persistence of the lesion without any effect from treatment. The outstanding feature is the pruritus. If the patient did not tear his skin there would be little change in it. Until ten days ago there was no suggestion of any form of pemphigus or lupus erythematosus. Realizing that an underlying lymphoblastic disorder might produce the intense itching, we have repeatedly examined the blood, and recently we examined a lymphatic gland. I think that there is no possibility that the condition is pemphigus or lupus erythematosus.

SYCOSIS VULGARIS. Presented by DR. CLARK W. FINNERUD.

Mr. I. C. had an eruption of the entire bearded region, which was more pronounced on the chin and upper lip, for seventeen years. The condition improved on several occasions but never entirely cleared. I first saw him on March 24, 1934, at which time quinoline sulphate and benzoyl dioxide ointment, as suggested by Dr. Samuel Peck, was used. He was next seen three weeks later, at which time his face appeared free from the disorder. There has been no recurrence.

DISCUSSION

DR. M. E. OBERMAYER: We treated a patient with sycosis vulgaris which had resisted all forms of treatment with the ointment mentioned, but were not as successful as Dr. Finnerud. The condition seemed to be cured temporarily, but it recurred within a few weeks, in spite of prolonged medication.

DR. H. RATTNER: At the University of Illinois my colleagues and I are treating patients with a preparation similar to but not exactly the same as that which Dr. Finnerud used. We have successfully treated about ten patients, in two or three of whom there were recurrences. In four cases we used the same ointment that Dr. Finnerud used, but it caused irritation. The modified ointment apparently has a better effect, but it is a proprietary preparation, and we do not know the formula.

DR. JAMES H. MITCHELL: My experience with this ointment is that as an irritant it is second only to butesin picrate and poison ivy. Judging from the appearance of this man's chin, I think that there will be a recurrence.

DR. CLARK W. FINNERUD: I have used this ointment in two cases of sycosis of long standing. In one a mild dermatitis resulted from its use, so it was used in half strength; the patient has been able to continue its use in that strength ever since, and the skin has remained clear. The patient presented here has used it in full strength and has never had any dermatitis as a result. Dr. Peck mentioned in his letter to me that it is necessary to continue its use for several weeks or months after the eruption clears, using it both morning and evening. Because some persons do show a resulting dermatitis, it probably is necessary to reduce the strength greatly in some instances. Some persons perhaps cannot tolerate the ointment in more than 25 per cent strength, and some probably cannot tolerate it at all.

SUMMER PRURIGO. Presented by DR. S. W. BECKER and DR. M. E. OBERMAYER.

This married woman, aged 30, was first seen in April 1933. She states that when she was 2 years old oozing lesions developed on the cheeks and the upper lip, which later became crusted. These lesions have been present since that time, becoming more marked in the spring and early summer. Exposure to the sun or wind causes the lesions to appear during the warm months, but winter air and sun are not so apt to produce them. Exposure to ultraviolet rays aggravated the lesions at one time. Lesions appeared on the arms a few years ago, when the patient first came to Chicago. The appearance of the lesions is always preceded by pruritus and scratching, the condition appearing about April 1 and disappearing during August. Scratch tests have given negative results, and many different types of local therapy, including the use of radium, have been ineffective.

Over the cheeks, upper lip and nose are noted papular, crusted lesions, tending to become confluent. On the extensor surfaces of the arms and hands are excoriated papular lesions, which have merged into lichenified plaques. Exposure to ultraviolet rays produces typical erythema but no other lesions, and exposure to heat fails to produce any lesions. Hematoporphyrin was not present in three specimens of urine or in one specimen of blood serum. The patient was given

generalized ultraviolet ray treatments by means of the carbon arc lamp and showed no signs of intolerance.

The Kolmer and Kahn tests of the blood serum gave negative results. The urine was normal. The basal metabolic rate was +2. Gastric secretion after the injection of histamine showed hypochlorhydria.

A rather elaborate special examination made by Dr. van de Erve showed, among other things, rather long blister time, increased papillary permeability, prolonged disappearance time with methylthionine chloride, U. S. P. (methylene blue), and a slight prolongation of the appearance time of erythema resulting from exposure to ultraviolet rays from a water-cooled quartz mercury vapor arc lamp. Wheals and flare-ups of the eruption in response to histamine and epinephrine were definitely increased. The blood pressure was unstable, with a high pulse pressure and a low systolic pressure.

Microscopic examination of a section showed the stratum corneum to be slightly thickened and loose. The epidermis was not markedly thickened, and the rete processes were not prominent. The papillary vessels showed slight dilatation, with moderate infiltration by round cells about the blood vessels and the ducts of the sweat glands.

DISCUSSION

DR. H. M. HEDGE: I have a patient under observation whose history resembles that of this patient closely. The patient is a woman with an eruption on the nose, the upper lip and both arms. The lesions have been present for about eight years. They appear in the latter part of April or early May and continue until August or September, as in this case. My patient believes that the condition is due to something that she uses in the summer that she does not use in the winter. I have examined her house and garden and have questioned her regarding everything with which she comes in contact, but have not been able to determine whether the condition is a dermatitis venenata. I think it is the same type of condition as that presented by the patient just seen.

DR. PAUL A. O'LEARY: I like to group this type of case under the heading of sensitivity to light. Whether it belongs in the same class with hydroa aestivale, meaning that the two disorders are gradations of the same condition, I do not know. As the present methods of estimating the porphyrins are still crude, I believe that it is hazardous to endeavor to differentiate these diseases on the basis of the presence or absence of porphyrin alone. It should be remembered that the porphyrins probably exert more influence on the viscera than on the skin. Fisher has suggested that the administration of arsenic increases porphyrinuria; I have been unable to obtain this result in hydroa aestivale. Apropos of sensitivity to light, interesting work has been done recently which shows that by feeding laboratory animals grain infected with certain molds these animals may be made sensitive to light. Along the same line, it is interesting to recall the work of Joblin and Peterson in regard to the etiologic significance of the presence of Monilia in the stools of patients with pellagra. It is true that the problem of sensitivity to light is complex, but it seems that the porphyrins are but one of the etiologic factors involved.

DR. RUBEN NOMLAND: Is it easier to determine the hematoporphyrin in the urine following exposure to light or before?

DR. FRED R. SCHMIDT: In Europe it has been known for a long while that animals which have been fed buckwheat and are then permitted to go out into the sunlight often show a severe dermatitis.

DR. JAMES H. MITCHELL: I have under observation a boy who was sent to me last fall with a history of summer prurigo much like this. I did not see him again until this week. He now has lesions on the ears, nose and neck. I thought of hydroa aestivale and sent a specimen of urine for estimation of hematoporphyrin; none was found. The boy also has lesions in the popliteal region and on the thighs, without any exposure to light. This condition is a summer diathesis which I cannot explain.

DR. S. W. BECKER: In this case we have done a great deal of work but have not been able to put our finger on the mechanism. The patient insists that every year, early in April when she is exposed to the sun, after a few hours pruritus develops on the exposed surfaces. She scratches and produces these lesions. She had the disorder when she had a garden and also when she lived in an apartment, but exposure to sunshine is necessary to produce the lesions. We have exposed her to radiation varying from extreme ultraviolet to infra-red without the production of lesions or pruritus. We have gone carefully into her activities and diet but have found nothing that gave us a clue. In reports of cases of this kind in the *Handbuch* it is stated that in hydroa sensitization to sunshine can definitely be proved and hematoporphyrin is found in the urine, but in this type of condition, which is called summer prurigo, a definite sensitiveness has never been proved. There may be some other seasonal factor, the nature of which is not understood.

ROSACEA-LIKE TUBERCULID. Presented by DR. F. E. SENEAR and DR. MARCUS R. CARO.

This woman, aged 27, first noted red blotches on the chin about one year ago. At that time she underwent a complete physical examination because of loss of weight and a rise in temperature in the afternoon and was informed that a roentgenogram of the chest revealed incipient tuberculosis. Since then the temperature in the afternoon has varied between 99 and 102.4 F.; the patient has lost 15 pounds (6.8 Kg.) and weakness, cough and tachycardia have developed.

The cutaneous lesions spread slowly to reach the present extent and severity about six months ago. At present the entire face and undersurface of the jaw are erythematous, only the eyelids being spared. There are scattered telangiectatic and many inflammatory papules, with an occasional pustule. Diascopic pressure over some of the papules discloses a suggestion of apply jelly nodules.

Physical examination and a roentgenogram of the chest showed no evidence of tuberculosis. The Mantoux reaction was negative with 0.1 cc. of a 1:10,000 solution of old tuberculin. Examination of the blood did not show lymphocytosis.

Histologic examination of a specimen taken for biopsy from the right side of the jaw showed an atrophic epidermis and several typical tubercles in the upper part of the corium, some of which contained giant cells. Acid-fast bacilli were not observed.

DISCUSSION

DR. UDO J. WILE: Lewandowsky described this condition several years ago, and following his death comment on it has rather disappeared from the literature. Several years ago I presented two cases of this condition before this society at its meeting in Ann Arbor, Mich. Since that time my associates and I have been able to collect five instances, bringing the total number up to, I think, sixteen. A report of the condition in our cases is to be made in the near future. There has been some difficulty in differentiating the disorder from lupus miliaris faciei. In one sense there is no difference, since both lesions are forms of tuberculosis. Clinically, however, there are certain distinct differences.

The lesions in rosacea-like tuberculosis are completely masked by the erythema, and in most of the cases I think that they are regarded as intractable rosacea.

On diascopic pressure small yellowish tubercular nodules can be demonstrated. The histologic picture of the lesions is typical of tuberculosis.

The lesions are considerably smaller than those of lupus miliaris and much more numerous.

As long as the term tuberculid is capable of two interpretations, I think that it is better to speak of this condition as rosacea-like tuberculosis, as it is apparently a bacillary and not a toxic reaction. A striking feature of this entity is its occurrence almost exclusively in women. The tuberculin reaction has been regarded by some as pathognomonic for the condition, it being held that the lesions are allergic to tuberculin, in contrast to those of lupus miliaris, which are anergic.

Great stress has been laid on this point by German investigators. I do not believe that it is a tenable diagnostic criterion. Some of the patients reacted to tuberculin positively, and some did not.

DR. H. E. MICHELSON: It is easy to speak glibly on the subject of rosacea-like tuberculid. I have carefully reviewed the literature on this subject and have found it rather difficult to ascertain the criteria for making a diagnosis of Lewandowsky's type of facial tuberculosis. The distribution is not a sufficient sign. I judge that the similarity of this condition to rosacea proper is what impressed the original describer. Lupus vulgaris of the planar type may also have a rosacea-like distribution. In the few cases that I have observed in which I made a specific diagnosis of rosacea-like tuberculid I found small, uniform-sized papules showing positive results on diascopic pressure, varying degrees of hyperemia and extreme chronicity and resistance to treatment. Microscopically, I have seen a small granuloma with a tuberculoid structure lying just beneath the epidermis, resembling somewhat the infiltrate in lichen nitidus. The patient whom I have observed had strongly positive Mantoux reactions. Organisms are observed with great difficulty, if at all. In fact, I do not recall a report in which it was stated that the bacilli were seen. Histologically, the presence of tuberculosis is almost always noted. The entire question of rosacea-like tuberculid is difficult, and in order to differentiate this disease from the other types of facial tuberculosis one must make a careful evaluation of all the factors.

DR. THEODORE K. LAWLESS: This type of cutaneous manifestation is usually seen in persons who are on a high caloric diet for tuberculosis. There must have been a history of tuberculosis in this case. The usual picture is acne vulgaris with superimposed acne rosacea. My impression is that the condition is one of acne rosacea in a tuberculous person.

DR. WILLIAM ALLEN PUSEY: To me this is the most interesting case in the group. In the first place, I think that the diagnosis is neat. This is an extremely rare condition, in my experience, and I was struck by the point which Dr. Lawless made that there may be rosacea complicating these miliary tubercles in the skin. I am perfectly willing to accept the diagnosis, but I confess that I should require a definite histologic picture if I had not had the diagnosis made for me. I looked carefully for tubercular nodules in the skin under pressure. They were pointed out to me by several of the members, but I could not be sure that they were not the same as those seen in acne rosacea.

DR. MARCUS R. CARO: The patient has a definite history of tuberculosis. She was not overfed either in the total quantity or in any type of food, and there has been a progressive loss of weight for some time.

DR. H. E. MICHELSON: One patient in the hospital now with this condition is doing remarkably well on the Gerson diet.

LICHEN PLANUS ATROPHICUS ET SCLEROSUS; SCHAMBERG'S DISEASE; VITILIGO. Presented by DR. JAMES H. MITCHELL.

This obese woman, aged 56, stated that her disorder is of about one year's duration. She was said to have had diabetes, but the urine is now normal, and her general health is good. She has had several abdominal operations. She suffers from marked burning sensations and some pruritus.

There are well defined symmetrical, hand-sized, atrophic, red lesions in the inframammary folds. At the margins are white satellites the size of split peas. Over the lower part of the sternum are slightly elevated, pitted lesions. In the lower quadrants of the abdomen are symmetrically placed, dime-sized lesions, and on the hips are similar lesions about 5 cm. in diameter. Symmetrical lesions involve the vulva and the anal region to the sacrum. On the shins are typical areas of pigmentation of the Schamberg type, and on the hands and forearms are large areas of vitiligo.

DISCUSSION

DR. CLARK W. FINNERUD: I am particularly interested in seeing this patient, because the vulvar lesions are so similar to those of the patient whom I presented immediately afterward. I believe, particularly since getting additional information from Dr. Michelson about the type of condition shown by my patient, that the lesions localized in the vulvar region of each of these patients are those of lichen planus sclerosus et atrophicus, those in the patient whom Dr. Wolf and I presented being exclusively in this area.

LICHEN PLANUS ATROPHICUS? KRAUROSIS VULVAE? Presented by DR. CLARK W. FINNERUD and DR. M. J. WOLFF.

This woman, aged 76, states that she has had a pruritic disorder of the vulva and anus for about ten years, which has been treated with local applications at intervals, without much relief. She received three roentgen treatments about three years ago and three more about one year ago. The first series of treatments relieved the condition, but the last had no effect.

The family history is irrelevant. The patient has been a widow for thirty-two years and has never been pregnant. She states that she has lost about 8 pounds (3.6 Kg.) during the past year, but her general condition is good, except for generalized arteriosclerosis. On examination her blood pressure was 158 systolic and 80 diastolic. The urine was normal.

The tissue of the introitus vaginae is dry, atrophic, wrinkled, glistening and brownish red. Some leukoplakia-like patches and telangiectasia may be noted on the mucosa. The labia minora have disappeared, and the labia majora are small. The vestibulum vaginae is definitely narrowed, admitting only the tip of the finger. The skin over the anogenital area is symmetrically involved. The patches of atrophy are sharply defined, and the disorder extends backward to the sacral region along the intergluteal fold and laterally about 2 inches (5.08 cm.) to the inguinal folds. The skin is dry, atrophic, infiltrated and shiny. A group of small white papules is noted in the pubic region. There are no lesions of the skin elsewhere or of the oral mucosa.

DISCUSSION

DR. CLARK W. FINNERUD: There is a group of white papules in the pubic region. Our sections are not yet completed, but I shall append the report to the history for publication.

DR. H. E. MICHELSON: The members' attention should be called to the fact that certain conditions which are clinically diagnosed as kraurosis vulvae are in reality localized patches of lichen sclerosis. Darier mentioned this, and on close observation I have found vaginal lesions in two patients with rather typical lichen of Hallopeau on the chest and back. I think that in Dr. Finnerud's case the group of white papules in the pubic region makes this diagnosis tenable.

DR. JAMES H. MITCHELL: I shall try to get sections from the patient whom I presented.

NOTE.—The essential histologic changes consisted of hyperkeratosis, acanthosis and moderate inflammatory changes of the corium in the specimen taken from the mucous membrane portion of the vulva and epidermal atrophy, mild hyperkeratosis, partial destruction of the elastic tissue and mild cellular infiltration of the upper half of the corium in the specimen taken from the skin portion.

MACULAR TOXIC ERUPTION, WITH A FALSE POSITIVE KAHN REACTION. Presented by DR. A. W. STILLIANS.

This Jewish salesman, aged 24, soon after taking two Ex-Lax tablets about April 27, noted an eruption on his legs, which spread to the thighs and forearms. There was no subjective symptom. When I first saw him, a week later, the small macules on the legs were petechial; those on the thighs and forearms were pink

and round, those on the thighs averaging 0.5 cm. in diameter and those on the forearms, 0.2 cm.

The blood count showed 4,350,000 erythrocytes and 85 per cent hemoglobin. The urine showed no sugar, no albumin and no abnormal sediment. The Wassermann reaction was negative. The Kahn test gave positive results; it was repeated on another specimen of blood serum, with the same result. Other serums examined at the same time gave negative reactions, except two controls, both of which showed positive Wassermann reactions. The blood serum was examined in another laboratory, and the examination was repeated in my laboratory with a new lot of Kahn antigen; both tests gave negative results.

Later, pink macules developed over the abdomen, flanks and lower part of the back, with a group of white macules about 0.3 cm. in diameter behind each ear. The lesions on the thighs then became confluent and faded, leaving brown pigmentation.

DISCUSSION

Dr. Udo J. Wile: Every one, I think, is struck with the extraordinary yellow color of this eruption and the abruptness with which it appeared. Without more data it is difficult to do anything more than to hazard a diagnosis. I suggest that this condition may be one of the exanthematous forms of xanthoma in which there is marked lipemia, which results in the deposition throughout the skin of plaquelike and macular yellow lesions of this kind. Such general xanthoid color occasionally occurs in xanthoma tuberosum outside of the actual tumors, the whole skin being yellowish or buff.

I suggest that a specimen of drawn blood be centrifugated to determine the presence of an excess of lipid, which, of course, would confirm the diagnosis, although its absence would not disprove the diagnosis. I do not think that the eruption has anything to do with the phenolphthalein which the patient is alleged to have taken.

Dr. A. W. Stillians: I am glad to hear Dr. Wile's suggestion, and I shall make an effort to carry it out.

Arsenical Pigmentation; Arsenical Keratoses of the Palms and Soles; Multiple Superficial Epithelioma (Arsenical). Presented by Dr. J. Frank Waugh and Dr. R. H. Scull.

This woman, aged 58, with marked ataxia, gave a history of taking solution of potassium arsenite, in doses varying from 5 to 7 drops three times daily, fairly continuously for more than three years. She sought advice as to whether this medication was doing her any harm. In spite of advanced arsenical changes in the skin, she was unaware of them.

She presents a generalized, rather marked, dirty brown, mottled pigmentation, which is most pronounced on the trunk. In addition, there are rather diffuse hyperkeratosis of the palms and punctate keratoses on the soles. One also notes on the body, especially in the right iliac region, about a dozen reddish, scaling lesions varying in size from that of a pea to that of a dime. These lesions have a fine, threadlike border.

Histologic examination of one of these lesions revealed a typical superficial epithelioma, showing multiple areas of dark-staining basal cells arising from the basal cell layer of the skin. There was some nonspecific infiltration in the upper portion of the cutis. The nonepitheliomatous portion of the specimen revealed marked arsenical pigmentation, with many pigment-bearing cells (chromatophores) in the upper part of the cutis and spotty increase in pigment in the basal cell layer. There were also some irregular acanthosis and edema of the pars papillaris, with questionable sclerosis of the connective tissues of the papillary and subpapillary layers.

DISCUSSION

Dr. William Allen Pusey: Were these epitheliomas preceded by keratoses? Is there any way of excluding spontaneous keratoses? The location is rather odd for them, and the patient has few around the hands.

DR. RUBEN NOMLAND: I do not know. The patient did not know that she had the lesions until we discovered them on examination.

DR. UDO J. WILE: Most cancers which arise from arsenical keratoses are squamous cell growths. I believe that if the cancers in this case are of the basal cell type they are distinctly exceptions to that rule.

DR. PAUL A. O'LEARY: It seems to me that the patient has typical arsenical pigmentation with arsenical epitheliomas. The basal cell growth in the flank is to be differentiated from superficial epitheliomatosis not associated with the ingestion of arsenic. Dr. Montgomery recently reported a study of arsenical epitheliomas, showing how difficult it is to evaluate not only the presence but the absence of arsenic in some of these cases. In patients with arsenical pigmentation such as this patient presents arsenic may be demonstrated in the hair and urine, or it may be absent, but as a rule the histologic sections show the presence of arsenic. I have had patients who have taken arsenic by mouth for a fairly long period, during which I have been unable to demonstrate arsenic in the skin, hair or urine. On the other hand, patients who have not taken solution of potassium arsenite, for example, during the past thirty years may show arsenic in the hair, skin and urine. I still believe that Osborne's technic is specific for the presence of arsenic in the skin, and this in a measure has been substantiated by chemical estimations for arsenic by the Osterberg method. The latter method of studying excised normal tissue as well as arsenical epitheliomas has further increased my faith in the Osborne procedure. Arsenical epitheliomas on the trunk may be of the basal, basal-squamous cell or squamous cell type, whereas those on the palms following arsenical keratoses are invariably of the squamous cell type. In determining the origin of these lesions, both physicochemical and electrochemical methods may be necessary to demonstrate the presence of arsenic in tissue.

DR. A. W. STILLIANS: My experience has been the same as Dr. O'Leary's, that it is difficult to demonstrate the presence of arsenic in some cases of evident arsenical keratoses.

DR. HOWARD J. PARKHURST: I was interested in Dr. O'Leary's remarks, recalling a patient whom I have had under observation for a number of years and one with a similar condition who was presented in Cleveland in April. Both these patients had had psoriasis for years, and both had received a certain amount of arsenic from time to time. In both cases the severity of the psoriasis has diminished. My patient has had no psoriatic lesions for a year or two but now presents rather widespread superficial epitheliomatosis. The patient presented in Cleveland also showed superficial epitheliomatosis, and both patients had arsenical keratoses on the hands, but apparently none in the neighborhood of the epitheliomas. It was thought that arsenic might have played a part in the development of the neoplasms.

DR. PAUL A. O'LEARY: The presumptive evidence that the epithelioma is due to arsenic is the presence of arsenic in the epithelioma and its absence in the surrounding normal skin.

DR. S. W. BECKER: This patient's skin presents the grayish hue which is found in arsenical pigmentation and in pigmentation following the use of tars and similar compounds, such as was recently reported by Wieder (Occupational Melanosis, with Report of a Case, ARCH. DERMAT. & SYPH. **25**:624 [April] 1932). Work was carried on in our clinic by Dr. Tannenholz and Dr. Muir for three years on the hydrogen sulphide method of Justus and Brünauer, later modified by Osborne, and we could not prove that the crystals which were produced contained arsenic. As Dr. O'Leary has just stated, more of these crystals are found in regions of carcinoma than in the normal skin, and we observed that they were more numerous in inflammatory tissue. This may be why Osborne found them about the blood vessels in skin from patients with arsenical dermatitis. We endeavored to apply other chemical methods for the demonstration of arsenic to histochemical work, but were not able to do so. Dr. Gersh of the department of anatomy told me that there is no method for demonstrating arsenic in the skin.

Recently, we have had some correspondence with Dr. Gaul of New York, who is examining skin for arsenic by a spectrophotometric method, and he stated that he has not been able to demonstrate it. I believe that the whole problem of arsenic is difficult and that physicians will have to alter some of the previous ideas relative to the demonstration of arsenic and to its significance.

DR. M. H. EBERT: I had an opportunity to see a group of patients at Bloch's clinic into whom arsphenamine had been injected intradermally as a test for sensitization. About a year later the areas were excised, and marked changes were found, resembling those seen in Bowen's disease. Dr. Bloch thought that this indicated that the arsenic had been anchored by the epidermal cells and was producing a precancerous type of lesion. The arsenic was not demonstrated by any chemical means.

DR. RUBEN NOMLAND: I think that every patient with superficial epitheliomatosis should be carefully examined for signs of previous arsenical medication. I believe that if this is done one will find frequently that the patient has punctate keratoses on the palms and soles and occasionally pigmentation compatible with arsenical pigmentation. Two of the last four patients with clinically and microscopically typical multiple superficial epitheliomatosis of the basal cell type who were seen have shown evidence of arsenical medication. However, in both these patients it was impossible to demonstrate arsenic by the use of Osborne's method. Mr. Gant, who is the coroner's chemist and who has had considerable experience in the detection of arsenic, said that he did not believe that the method of Osborne was accurate for the demonstration of arsenic. This patient presents definite arsenical symptoms of which I think the epitheliomas are a part.

CALCINOSIS OF THE SKIN. Presented by DR. F. E. SENEAR and DR. THEODORE CORNBLEET.

This boy, aged 7 years, has been under the observation of the pediatric department at the University of Illinois for four years. When he was first admitted there was a history of intermittent pains in the joints for eight months and of an eruption which was thought to be erythema multiforme. The only significant findings on physical and laboratory examination were a positive Mantoux reaction and slight secondary anemia. The diagnosis made at that time was acute rheumatic fever and erythema multiforme. After two years of intermittent observation the pediatric department concluded that the child might have Still's disease. At that time he had an enlarged spleen and a systolic murmur at the apex of the heart. There were partial ankylosis of the spine, knees, elbows and wrists and erythematous, atrophic cutaneous lesions at the metacarpophalangeal joints, elbows and knees. Erythematous areas, which showed no atrophy, were noted on the face. At about that time the buttocks began to show the same type of erythematous patches, without atrophy, as those on the face. Physical therapeutic measures were instituted by the orthopedic department, with apparently some relief.

Roentgenograms taken at that time failed to confirm the diagnosis of Still's disease. The Mantoux reaction (1:1,000 solution) was negative. There was secondary anemia. The blood sugar was 70 mg. per hundred cubic centimeters; the nonprotein nitrogen, 27 mg.; the calcium, 9.79 mg.; the phosphorus, 5.4 mg., and the cholesterol, 192 mg. The Kahn and Wassermann reactions were both negative. Treatment with parathyroid extract was given, without any effect. At about that time the patient was presented before this society, and a tentative diagnosis of tuberculid was made.

There was little change in the patient's condition up to May 1, 1934, when he returned to the pediatric dispensary. He was then able to open his mouth a little wider; the spleen was no longer palpable, and the heart murmur had disappeared. A hard papule was noted over the right elbow, and another was present over the right knee, which had appeared several days previously. Near

the lumbar portion of the spine and just to the left of it was a nodule which the mother said was discharging particles of lime. This was removed for study.

Histologic examination of the nodule showed circumscribed masses of calcium deep in the corium, surrounded by a zone of infiltration containing histiocytes and foreign body giant cells.

The question arises as to whether this is beginning calcinosis of the skin, the preliminary changes of which have been watched for four years.

DISCUSSION

DR. THEODORE K. LAWLESS: During my senior year in medical school, while working under the direction of the late Dr. Frederick Harris, a case with an identical histologic picture was studied. Chemical analysis of the deeply staining material in the specimen removed for biopsy was made, and the presence of aluminum was reported. I suggest chemical analysis in this case.

DR. FRED R. SCHMIDT: My impression of the boy's facies was that the condition may be an early stage of scleroderma associated with calcinosis.

DR. RUBEN NOMLAND: In my opinion, the boy does not present the type of calcinosis seen in scleroderma.

DR. THEODORE CORNBLEET: I have been observing a girl, whom all the members have seen in the Cook County Hospital, with a scleroderma-like change in the skin with secondary calcinosis, but I believe that the picture in that case is different from this picture. The remark of Dr. Lawless is interesting in view of the fact that there is nothing in the blood chemistry that throws light on why there should be calcium in the skin. There is no excess of calcium in the blood. The only thing that we can do is to remove some of the nodules and examine them chemically for calcium.

NOTE.—A nodule was removed, and the mineral portion of it was studied chemically. Calcium and silicon were present. There is a test for aluminum which gives a flocculent precipitate that dissolves on the addition of sodium hydroxide. If this precipitate does not dissolve, the material is probably silicon. The one in the laboratory who reported to Dr. Lawless may have thought that aluminum was found when in reality silicon was present.

STRIAE DISTENSAE, ASSOCIATED WITH ENDOCRINE DISTURBANCE. Presented by DR. M. H. EBERT.

This man, aged 23, was admitted to the medical ward of the Cook County Hospital, in the service of Dr. Volini, because of red streaks on the abdomen of six months' duration, pain in the back of five months' duration and swelling of the abdomen of three months' duration. He stated that for the past ten years he had perspired easily and copiously. The medical and family history were unimportant.

Physical examination showed the following: The patient was 5 feet (152.4 cm.) tall, weighed 132 pounds (59.9 Kg.) and did not appear ill. His face was flushed and moist with perspiration and presented a large number of telangiectatic blood vessels. The pulse rate was 110; the blood pressure was 210 systolic and 150 diastolic. The basal metabolic rate was + 18 on one occasion and + 3 a week later. His temperature has been normal during his stay in the hospital.

A large tumor fills the right half of the abdomen. The mass is movable, firm and not tender. Four longitudinal striae from ½ to 1 inch (1.3 to 2.5 cm.) in width extend on each side of the midline from the costal margin down the abdomen and across the groins. These are bluish red, atrophic and slightly depressed. Across their surface run a few telangiectatic blood vessels. Two similar vertical striae run down each flank. Similar but less marked deep red lesions run transversely across the anterior and posterior axillary folds and the region of the right triceps.

DISCUSSION

DR. PAUL A. O'LEARY: The patient has polycythaemia vera in addition to the other disorders. The congested face and erythematous appearance of the mucous membrane suggest polycythaemia vera, which is confirmed by the red cell count of approximately 6,000,000. The livid hue of the striae is probably due to the polycythemia.

DR. WILLIAM ALLEN PUSEY: Are these new striae? In such striae redness is not uncommon. I was thinking along the line of Dr. O'Leary's comment that the condition of the blood and the high blood pressure are responsible for the amount of vascularity of the lesions and their redness. This is a very unusual case.

DR. RUBEN NOMLAND: Cushing recently described a syndrome that he thinks is due entirely to a basophilic adenoma of the pituitary gland, which is associated with hypertension, obesity, striae cutis distensae and other changes. A similar syndrome, which has been described as a corticosuprarenal syndrome, presents the same type of picture. This man has a large tumor, which may be a tumor of the suprarenal glands. I am inclined to believe that the hypertension and also the striae cutis distensae are associated with this tumor.

DR. M. H. EBERT: I am glad of the opportunity to see this case through the courtesy of Dr. Volini. My observation supports the contention that at least some of the striae cutis distensae are due not to obesity and pressure but to some injury to the elastic tissue. I think that this contention is well borne out in this case, because some striae are present in the axillary folds, where there is no increase in volume or stress. This bears out the records which show that such striae may occur in wasting diseases, such as typhus and tuberculosis, in which, instead of increase of tension, there is an actual decrease.

RINGWORM INFECTION (SUPERFICIAL) OF THE CHEST, WITH GENERALIZED ERYTHEMA MULTIFORME-LIKE TRICHOPHYTID. Presented by DR. CLARK W. FINNERUD and DR. R. H. SCULL.

This girl, aged 16, was first seen about May 5, when she presented a pruritic lesion the size of a silver dollar on the upper portion of the anterior surface of the right side of the chest, of one week's duration. The lesion was sharply marginated and showed some scaling and numerous vesicles ranging in size from that of a pinpoint to that of a pinhead, which were more marked at the borders. Preparations of sodium hydroxide revealed many segmented and nonsegmented mycelial filaments. A salicylic acid ointment for local use was prescribed.

When the patient returned a week later the original patch showed only residual redness, but she presented a generalized eruption, which she stated had been present for three days. This eruption was composed of macules and maculopapules, varying from 1 to 2.5 cm. in diameter; these were present over the face, neck and upper and lower extremities, including the soles. There was some predilection for the extensor surfaces of the arms and legs.

Five-hundredths cubic centimeter of a 1:30 solution of trichophytin was injected intracutaneously, and forty-eight hours later an erythematous maculopapule, 1.5 cm. in diameter, was present at the site of the injection. The generalized eruption has faded considerably.

DISCUSSION

DR. M. H. EBERT: Did I understand that the trichophytid appeared after the injection of trichophytin?

DR. CLARK W. FINNERUD: No, before.

DR. JAMES H. MITCHELL: The point in which I am most interested is the identification of the infecting organism—whether or not any material has been implanted on agar.

DR. CLARK W. FINNERUD: I am sorry to say that we did not make cultures. When we first saw the patient we demonstrated the organisms in the scales in

fresh preparations, and when she came back there were no organisms demonstrable, but she had a generalized toxic eruption. I think that the eruption is particularly interesting in that it is of the multiform erythema-like type, which, I believe, is one of the more unusual types of trichophytid.

SYRINGOCYSTOMA. Presented by DR. H. C. SCHORR (by invitation).

This Negress, aged 34, presents a papular eruption which involves the entire face, the upper part of the chest, the shoulders and the abdomen. She states that this has been present ever since she can remember. She believes the condition to be a birthmark, because her mother was boiling ocher seeds when she carried her. There are no subjective symptoms and no history of tuberculosis. She stated that she had a blood test in one of the clinics and was told that she needed no treatment.

The eruption consists of papules varying in size from that of a pinhead to that of a pea. The surface of the lesions is smooth and glistening, giving a somewhat shiny appearance. There is a tendency to confluency, but the eruption is not spreading.

Histologic study of a lesion showed changes characteristic of syringocystoma.

SYRINGOCYSTADENOMA. Presented by DR. RUBEN NOMLAND and DR. R. H. SCULL.

This woman, aged 37, first noted a soft, bulging lesion at the inner canthus of the left eye six years ago. About one year later a similar lesion appeared at the other eye. The lesions have increased in number and size since that time.

There are now eight translucent cysts, varying from 3 to 10 mm. in diameter; they are located chiefly on the inner and outer canthi, but one or two are present on the lids.

On attempting to remove a lesion for biopsy the cyst was ruptured, and a watery fluid escaped. Histologic study of the specimen showed the wall of the cyst to be rather deep in the cutis and to be made up of two rows of rather large, dark nuclei suggesting pseudocolumnar epithelium, with a definite basal cell membrane. The cells of the wall of the cyst resembled those of ducts of sweat glands more than any other tissue.

DISCUSSION

DR. UDO J. WILE: The lesions around the eye in the white patient are unique. While they look cystic, they are extremely hard. Such translucence can occasionally be seen in cellular tumors and may not be due to fluid. The specimen removed for biopsy which I saw, however, certainly shows a cystic condition of the sweat glands.

DR. RUBEN NOMLAND: There is thin fluid in the cysts in our case.

DR. CLARK W. FINNERUD: I think that the Negress with the extensive lesions has typical syringocystadenoma, except that there are an unusually large number of lesions on the face. I think that the second case is one of hydrocystoma, atypical clinically but typical histologically, in that the linings of the cysts consist of a double row of epithelial cells, showing the origin in the sweat ducts, and I should like to know why Dr. Nomland thinks differently.

DR. DAVID LIEBERTHAL: The first case is one of the usual forms of syringocystoma or syringoma. In several cases observed by me I obtained invariably good results from roentgenotherapy. The second case interests me, as I have observed similar manifestations in a mother and her son. The lesions occur in the upper and lower eyelids, near the outer and inner canthus. One lesion was excised and examined. It was a typical cyst with membrane and epithelial lining, but no connection with a sweat duct was observed.

DR. RUBEN NOMLAND: I think that the case presented by Dr. Schorr is one of typical syringocystoma, similar to that in a case presented before this society two months ago. There is relatively great difficulty involved in establishing the terminology for tumors originating in the sweat glands. So far as I understand

it, there is, first, hydrocystoma, which presents lesions superficially located, usually appearing on the cheeks, which look like drops of water and rupture easily. I do not know its pathology. Then there is syringoma, which I do not think is the same condition. It presents itself most commonly as flat lesions and has a marked preference for the eyelids but may be located widely. It shows cysts and strings of cells connecting the cysts. Then there is a rare type of tumor of the sweat glands of nevoid origin that bears the name of syringocystadenoma papilliferum and shows a mixture of cysts or large dilated spaces and papillary lesions. I have had an opportunity to examine a tumor of this kind and observed that a great many of the cyst spaces were lined with pseudocolumnar epithelium, the nature of which I know nothing about. I also have seen mixed nevoid growths, some of which had their origin in the sweat glands and some in the sebaceous glands. In my opinion, the syringocystoma is another type, an adenoma of the sweat glands that differs clinically and microscopically from all the types that I have discussed. Apparently, relatively few cases have been recorded, and none of the textbooks to which I had access gave any adequate picture of the disorder.

I think that this patient presents adenoma of the sweat glands of cystic nature. The lining of the cyst is similar to the pseudocolumnar type of lining that I observed in the growths of the two types previously mentioned.

DR. DAVID LIEBERTHAL: The naevus cystadenomatosus papilliferus mentioned by Dr. Nomland consists of cauliflower-like growths with flat or pedunculated bases and more or less moisture, which may dry and form crusts. In the sections one sees a considerable increase in the number of sweat glands and within these sausage-like and round cystic formations which are lined with variable layers of cylindric or cuboid cells. From these lining membranes condyloma-like excrescences protrude into the lumens of the cysts.

MICROSPORON AUDOUINI-IMPETIGINOIDE INFECTION OF THE SCALP (BLOCH TYPE). Presented by DR. JAMES H. MITCHELL.

This girl, aged 2½ years, was first seen on Jan. 15, 1934, at Rush Medical College. The clinical appearance of the scalp suggested kerion, but when the crust was removed with surgical solution of chlorinated soda there was no inflammatory reaction resembling kerion. The microscopic appearance of the hair was typical of an infection with Microsporon. The gross and microscopic appearance of the culture was characteristic of Microsporon Audouini.

Treatment has consisted chiefly of the application of 50 per cent salicylic acid ointment, and healing is apparently now complete.

Photographs and a Petri dish culture are demonstrated.

DISCUSSION

DR. M. H. EBERT: This case is interesting because in a series described by Bloch such a condition appeared at the end of an epidemic, when the organisms had apparently increased in virulence. This case is apparently sporadic.

DR. JAMES H. MITCHELL: There is no history of contact with other children or with animals. As this is an infection with M. Audouini, that would not have been a factor anyway. The response to therapy is interesting.

CARCINOMATOSIS (METASTATIC) OF THE SKIN. Presented by DR. MAX S. WIEN and DR. M. O. PERLSTEIN.

This Negress, aged 42, was admitted to the Cook County Hospital on May 7, 1934. She states that she had a radical amputation of one breast for carcinoma in 1928 and that in 1929 the other breast was removed. She was in fairly good health until 1933, when she began to complain of headache and backache, pain in the legs which interfered with walking, weakness and a loss of about 20 pounds (9.1 Kg.). During the past month she has noted the appearance of nonpainful nodules on the skin, beginning on the trunk and later involving the face. In 1929 the Wassermann reaction of the blood was positive, and she received intensive

antisyphilitic therapy from 1929 to 1931. She presents no symptoms referable to the cardiovascular or gastro-intestinal system.

The essential findings in the skin are a generalized diffuse nodular eruption, the lesions varying in size from that of a pinhead to that of a split pea. The nodules are infiltrated, subcutaneous and of a bony hardness. Some of them have eroded through the epidermis and are covered with a hemorrhagic crust. The entire body, including the vaginal mucosa and the anterior rectal wall, is involved. In addition to the evidence given by the history of amputation of the breasts, the patient has Argyll Robertson pupils.

The Wassermann reaction of the blood has been negative. There is marked secondary anemia, with disturbance in the pigmentation of the erythrocytes; the leukocyte count and the differential count have been relatively normal. Roentgenograms of the chest show no evidence of metastases to the lungs, but in the ribs are seen areas of destruction typical of a malignant process.

Histologic examination of a nodule removed from the back showed diffusely scattered malignant cells about the vessels. The source of these metastatic carcinoma cells could not be determined.

DISCUSSION

DR. WILLIAM ALLEN PUSEY: The chief interest to me in this case is the double carcinoma of the breast in a Negress. I have not seen such a condition before, and should like to know what experience Dr. Lawless has had with it.

DR. THEODORE K. LAWLESS: One sees such cases not infrequently. There is usually a history of the patient's attaching little importance to the primary nodule, thus giving a greater opportunity for dissemination.

BLASTOMYCOSIS. Presented by DR. THEODORE CORNBLEET and DR. E. R. PACE.

This Italian laborer, aged 56, was first seen in December 1932, with lesions typical of blastomycosis of about eighteen months' duration. In addition to four lesions on the extremities, varying in size from that of a silver dollar to that of a palm, there were a large patch on the left cheek and one above the left eye. Underlying the lesion on the cheek the left parotid gland was tightly distended, but its duct showed no signs of drainage or inflammation. However, this gland discharged spontaneously and suddenly through its duct into the mouth and has shown no abnormality since. All these lesions involuted under roentgenotherapy and treatment with potassium iodide given internally and gentian violet applied locally. Meanwhile a fine purpuric eruption developed on the lower parts of the legs, which gradually involved both legs to the knee.

In October 1933, there was a recurrence about the left eye, and the patient complained of progressive swelling and tenderness of the right knee. While he was under observation for several weeks this condition became progressively worse, but the skin of the area showed no pathologic changes. Clinically, the condition was diagnosed as prepatellar bursitis, which opinion was upheld by the orthopedic department. Eventually the fluctuant area was aspirated and the material cultured, with negative results. However, at the site of puncture a typical vegetating lesion of blastomycosis soon developed, which has extended laterally in both directions (5 by 12 cm.) in spite of intensive roentgenotherapy and treatment with potassium iodide. There appears to be a sinus at the upper margin of this lesion. To the right of the lesion a palm-sized dusky-red area of brawny induration, with a central fungating lesion the size of a half-dollar has developed within the past few weeks. This area is tender and causes limping. Arsphenamine therapy was instituted about May 1.

LYMPHOGRANULOMA OF THE AXILLAE AND ANOGENITAL REGION. Presented by DR. MAX S. WIEN and DR. M. O. PERLSTEIN.

This Negress, aged 33, presents parallel bands of fibrosis and sinuses of both axillae of six years' duration. She also presents multiple sinuses and granulomatous

lesions of the buttocks and perineum of nine months' duration. There is no rectal stricture. The patient is cachectic and undernourished. Frei tests gave slightly positive results.

Histologic examination of an axillary lesion showed moderate vascularity and infiltration of the cutis by normal cells. The round cells were chiefly plasma cells and were usually perivascular. The blood vessels showed little change. According to Dr. Jaffé, the picture is compatible with that of lymphogranuloma inguinale.

PHILADELPHIA DERMATOLOGICAL SOCIETY

ROBERT L. GILMAN, M.D., *Secretary*

May 18, 1934

JACQUES P. GUEQUIERRE, M.D., *Chairman*

A CASE FOR DIAGNOSIS. Presented by DR. B. L. KAHN.

This man, aged 51, presents over the posterior aspect of the neck a large circumscribed, indolent ulcer with a slightly raised border. The base is clean and granulating, with some serous discharge. There is no tenderness. On both legs, extending from the knee to the ankle, are numerous discrete, raised, rounded, dark-crusted lesions. On the hands there are similar lesions, with several depressed, pigmented scars.

The lesion on the neck first appeared in 1923 and subsequently healed following roentgen therapy. It reappeared in May 1932, but at that time irradiation was ineffectual. The lesions on the legs appeared about one and one-half years ago. A roentgenogram of the chest revealed no evidence of tuberculosis and only a dilatation of the ascending aorta. There is mild secondary anemia. The reaction to the Kahn test was negative.

DISCUSSION

DR. F. D. WEIDMAN: I presented this man at the Atlantic Dermatological Conference and have made a good many laboratory tests. Materials grown in cultures were injected in an attempt to reproduce the lesions. The lesion on the neck, as proved by microscopic section, is carcinoma beyond doubt, and it has been almost entirely eradicated by radium; but the lesions on the legs are certainly not carcinomatous. At times they have been more verrucous than they are now. Pus accumulates between the verrucae, and one might therefore think they are sinuses, but they are not. Under the microscope each lesion is seen to be a highly exaggerated verruca. I have never been able to arrive at a positive diagnosis.

DR. D. M. SIDLICK: Several years ago I saw a patient who presented similar but more extensive lesions on the scalp and mucous membranes as well as on the arms and legs. At that time a provisional diagnosis was made of possible tuberculous lesions, but under observation the condition proved to be dermatitis vegetans, and under prolonged treatment with antiseptics it cleared up. My diagnosis in this case is dermatitis vegetans.

DR. J. H. STOKES: I think, too, that these lesions come within the range of variation of pyogenic processes in the skin of a subject who shows a marked focal reaction. There are some vegetative lesions which I think resemble pyogenic vegetative dermatitis; therefore, I believe that the man is displaying a rather unusual reaction to a pyogenic infection.

DR. J. V. KLAUDER: The lesions have always been dry, showing no evidence of pus during the period of my observation.

DR. S. S. GREENBAUM: May I ask Dr. Weidman if the reactions to the inoculations were positive?

DR. F. D. WEIDMAN: I isolated a streptothrix and a monilia, but the only lesion I obtained was at the site at which I injected the streptothrix. However, the culture died out in the course of three or four weeks, so I could not repeat the test, and without repeating the test I hesitate to claim that the material exhibited true pathogenicity.

DR. S. S. GREENBAUM: I saw this patient last summer and also a number of sections of a lesion on the leg. At that time I made a diagnosis of giant molluscum contagiosum. Some of the lesions are perhaps complicated by some other low grade virus infection, such as that of ordinary warts. Some of the members may have noticed a lesion on the knuckle of the right hand which was perfectly smooth, was not verrucous and had what appeared to be a central orifice and three or four lesions on the legs, which appeared to show the same type of central orifice. However, I was not able this time to express any of the contents, although I was able to do so with one or two lesions last summer. Could the patient have a mixed infection with two types of filtrable virus?

DR. F. D. WEIDMAN: I stained sections of some of the warts with Giemsa's stain to demonstrate intracellular inclusion bodies, but there were none. Otherwise the appearance was highly suggestive of the infectious warts which Goodpasture has fully investigated.

DR. C. S. WRIGHT: It seems to me that if the lesions are caused by an infection they should be transferred easily, because Wile and Kingery found that such warts are easily transferable from person to person even after being passed through a Berkefeld filter. Molluscum contagiosum is a little more difficult to transfer, and Wile and Kingery had some trouble in inducing lesions to grow. Verrucous lesions can be produced by a number of processes. I saw a patient recently who had little pieces of steel blown into his hand, after which several fairly large verrucous growths developed. Evidently anything that produces an irritative process may lead to a verrucous lesion.

PUSTULAR PSORIASIS. Presented by DR. R. L. GILMAN.

This man, aged 25, has a pruritic pustular eruption of the soles and palms which appeared in July 1933. The condition became steadily worse from the onset until early spring. Since then, under treatment with ultraviolet rays, roentgen rays, compresses and lotions there has been some improvement. The interdigital spaces are not involved. Frequent examinations for fungi have given negative results. In addition, all the toe-nails have become thickened and deformed, although not powdery. There is a small red patch of erythema under the left knee. The scalp until recently has been covered with a white, dense, adherent scale.

Because of the unsatisfactory progress under treatment the patient's large and infected tonsils were removed ten days ago. His present condition is unchanged.

DISCUSSION

DR. C. S. WRIGHT: I should like to know how to cure such eruptions. One may get temporary improvement with persistent treatment, but I have yet to see a case of complete recovery.

DR. S. S. GREENBAUM: I suggest the intravenous injection of Pregl's solution (the solution resulting from the action of iodine on sodium carbonate solution) either daily or every other day or compound solution of iodine by mouth.

DR. J. H. STOKES: The members may recall Barber's discussion of the three clinical pictures of the hands and feet which so closely resemble each other. Vacation brings the nearest approach to cure. In some cases the lesions clear up with rest alone. In the most refractory case I have ever seen the condition cleared during a two weeks' ride with the driver of a truck. A woman recovered during a seven weeks' automobile trip and had a relapse as soon as she got back to her routine problems. Also, bland applications should be applied, a reduction should be made in the intake of carbohydrates and the use of alcohol should be eliminated.

DR. E. F. CORSON: Did this patient have his tonsils excised recently?

DR. R. L. GILMAN: Yes, and from what Dr. Stokes says, some of the reputed good effects of removing the tonsils may have been due to the rest entailed.

NOTE.—The patient made a complete recovery two months after the tonsillectomy.

A CASE FOR DIAGNOSIS. Presented by DR. B. L. KAHN.

This Negress, aged 27, presents a pruritic eruption consisting of several oval macules which tend to follow the lines of cleavage on the back. They vary in diameter from 1 to 6 cm., are lighter than the surrounding skin, are not inflammatory and are covered with a scale. There are a few on the face and scalp associated with spotty alopecia.

The patient has advanced pulmonary tuberculosis. The reaction to the Kahn test was negative.

DISCUSSION

DR. W. O. ROOP: In view of the associated tuberculosis and the history of some clearing and persistent recurrence, I believe that a reasonable diagnosis is lichen scrofulosorum.

DR. J. H. STOKES: I wonder if a careful enough search has been made for parasites. There is follicular accentuation around the periphery, and I see no reason why one may not consider the possibility of lichen scrofulosorum, but because of the peculiar distribution over the inside of the knee a painstaking search should be made for a possible mycotic origin.

DR. F. D. WEIDMAN: I also have concluded that one should search for parasites, looking particularly for yeast organisms. The condition is widely disseminated, which is contraindicative of lichen scrofulosorum.

DR. J. H. STOKES: The form of lichen scrofulosorum which this eruption resembles, and which I doubt that it is, is the infantile type. The adult type, which one used to see with orthopedic tuberculosis, is irregular and patchy, with marked follicular accentuation, and does not produce little islands like those seen in this woman.

ERYTHEMA MULTIFORME? LYMPHOBLASTOMA? Presented by DR. B. L. KAHN.

This man, aged 62, has an eruption of erythematous and iris-like nodules and plaques on the dorsa of the hands and on the forearms, the legs, the forehead and the scalp. The mucous membranes are free. The eruption, which has lasted for ten months, apparently followed injections for the treatment of colds. He complains of hoarseness, sore throat and difficulty in breathing and hearing. A roentgen examination disclosed frontal and maxillary sinusitis. The laboratory examination gave negative results.

DISCUSSION

DR. D. M. PILLSBURY: Some correction of the history may be made. The patient stated that the lesions on the scalp and arms have been present only since February. They usually go through the cycle of appearance and disappearance in two weeks. It seems to me that this evanescent type of lesion in association with lesions in the throat and nose makes a diagnosis of erythema multiforme inevitable.

DR. J. H. STOKES: I do not know why, but I do not consider the condition erythema multiforme. The lesions have a central dimple instead of a central bulla, and there is marked induration of the nodules over the backs of the arms. It seems like a granulomatous phase rather than one of pure edema. I cannot say what it is. I understand that the patient is being tested for various areas of anesthesia, and I do not know whether he has ever been out of this country.

DR. S. S. GREENBAUM: According to the patient, the lesions on the forearms have appeared and reappeared three times in the past four months. The eruption on the forearms is totally different from that on the legs and soles, and I do not

see how one can entirely exclude a drug eruption. The condition on the lower extremities appears to me to be infectious dermatitis.

Dr. F. D. Weidman: I agree with Dr. Stokes that the malady is not erythema multiforme. Fundamentally there is an infiltration with some kind of translucent tissue. Erythema multiforme is essentially a superficial disease. This is deep. The subepidermal accumulations of infiltrate are thick, which I cannot imagine in erythema multiforme. I have looked through the record carefully, but there is no history of the ingestion of iodides and bromides. The condition might be regarded as leukemia. For an old man the patient has definitely palpable glands in the axillae and in the groins. Biopsy might clear up the diagnosis. It may be Hodgkin's disease.

Dr. B. L. Kahn: All findings in the blood were normal.

Dr. D. M. Sidlick: The fact that the man has badly diseased tonsils may have something to do with the manifestations. The lesions correspond to the iris type of erythema multiforme, and the fact that they are evanescent fits in with the usual history of erythema multiforme due to focal infection.

Dr. W. O. Roop: Some lesions on the wrist impressed me as being typical of erythema iris.

Dr. E. F. Corson: I think that this is the type of eruption that Dr. Weidman and Dr. Stokes agree on. It has a translucent, iridescent quality and a deeper infiltration than is commonly seen in erythema multiforme.

Hydroa Aestivale. Presented by Dr. J. V. Klauder.

This youth, aged 17, has had an eruption on the exposed parts of his body each summer since the age of 7 years. The eruption usually starts in March or April and lasts until June or July.

DISCUSSION

Dr. F. D. Weidman: This is the first authentic case of hydroa aestivale that I have see in years.

Dr. J. V. Klauder: There are three patients with this condition in attendance at the clinic of the Philadelphia General Hospital.

Dr. E. F. Corson: In twenty years of dispensary service at the Children's Hospital I have seen only three cases.

Multiple Sebaceous Cysts. Presented by Dr. Herman Beerman.

This white man, aged 35, is a sparsely nourished Puerto Rican whose general examination revealed no gross abnormalities. Distributed over the scalp, face, chest, abdomen and back are numerous nodules ranging in size from that of a small pea to that of a walnut. Some of the lesions are firm, and others give the impression of fluctuation. Puncture of one of the larger lesions produced a copious flow of an oily fluid. One of the lesions on the perineum seems ready to rupture. There are no evidences of anesthesia or thickening of any of the nerves. The patient has had the lesions for fifteen years. His general health has always been good.

The Wassermann reaction of the blood was negative. The nasal smear stained for acid-fast organisms was negative. The biopsy specimen showed the structure of a sebaceous cyst but failed to show the type of plug which was noted by Finnerud and Ormsby.

DISCUSSION

Dr. Herman Beerman: Several years ago Ormsby (Arch. Dermat & Syph. **19**:507 [March] 1929) presented a patient with multiple cysts of fourteen years' duration which clinically resembled the lesions in this case but in which the fluid was milky. Histologic studies by Finnerud suggested an origin in the sebaceous glands, but the clinical studies by R. W. Webster did not indicate whether the contents were sebum, chyle or lymph.

Later Ormsby (ARCH. DERMAT. & SYPH. **22**:169 [July] 1930) presented another patient with multiple cysts resembling xanthoma tuberosum and syringocystoma. Ormsby and Finnerud extended their studies of the two cases and reported them (Steatocystoma Multiplex, ARCH. DERMAT. & SYPH. **22**:822 [Nov.] 1930). They showed that in both cases the lesions were histologically "located within the ducts of a sebaceous gland, the cystic dilatation being due to the retained secretions through closure of the pilosebaceous follicular orifice by a hyperkeratotic plug."

Prakken, under the title "Sebocystomatosis" (*Dermat. Ztschr.* **66**:216, 1933), discussed the subject of multiple cysts. He was able to collect nineteen cases from the literature and added one of his own. In his case, that of a man of 43, there was a definite familial tendency since one of the patient's sisters and his father were similarly affected. The age of onset in the patient and in his sister was 12 years. The patient had fully seven hundred lesions. The contents were a light yellow fluid composed chiefly of fat. Prakken considered the lesions to be a form of atheroma of the type that arises from a retention of sebum in the sebaceous glands or the hair follicles.

DR. J. H. STOKES: I was very much impressed by this case. I have never seen one just like it.

DR. F. D. WEIDMAN: I suggest that the matter of tuberculosis be investigated. I have done necropsies on tuberculous subjects in which there was a larger number of sebaceous cysts than ordinarily appears. I cannot say, though, what the pathogenesis might be.

Directory of Dermatologic Societies *

INTERNATIONAL

NINTH INTERNATIONAL CONGRESS OF DERMATOLOGY AND SYPHILOLOGY

American Secretary: Dr. Howard Fox, 140 E. 54th St., New York.
Place: Budapest, Hungary. Time: Sept. 15-21, 1935.

FOREIGN

BRITISH ASSOCIATION OF DERMATOLOGY AND SYPHILOLOGY
(CANADIAN BRANCH)

W. R. Jaffrey, President, 64 Hughson St., S., Hamilton, Ont.
Basil Bowman, Secretary-Treasurer, 408 Medical Arts Bldg., Hamilton, Ont.
Place: Montreal, Quebec. Time: May 4, 1935.

ROYAL SOCIETY OF MEDICINE, SECTION OF DERMATOLOGY

Henry MacCormac, President, 23, Wimpole St., W. 1, London.
R. T. Brain, Secretary, 37 Fordington Road, Highgate, London, N. 6.

NATIONAL DERMATOLOGIC SOCIETIES

AMERICAN MEDICAL ASSOCIATION, SCIENTIFIC ASSEMBLY, SECTION ON DERMATOLOGY AND SYPHILOLOGY

Jeffrey C. Michael, Chairman, 1215 Walker Ave., Houston, Texas.
Harry R. Foerster, Secretary, 208 E. Wisconsin Ave., Milwaukee.
Place: Atlantic City. Time: June 10-14, 1935.

AMERICAN DERMATOLOGICAL ASSOCIATION

Charles M. Williams, President, 114 E. 54th St., New York.
W. H. Guy, Secretary, 500 Penn Ave., Pittsburgh.
Place: White Sulphur Springs, Va. Time: May 2-4, 1935.

SECTIONAL DERMATOLOGIC SOCIETIES

BALTIMORE-WASHINGTON DERMATOLOGICAL SOCIETY

Joseph E. Gately, President, 1129 Calvert St., Baltimore.
Joseph V. Kennedy, Secretary, 1835 Eye St., Washington, D. C.

CENTRAL STATES DERMATOLOGICAL ASSOCIATION

Samuel Goldblatt, President, 3208 Colerain Ave., Cincinnati.
Raymond, G. Senour, Secretary-Treasurer, 19 W. 7th St., Cincinnati.
Place: Cincinnati. Time: 1935.

IOWA AND WESTERN ILLINOIS DERMATOLOGICAL ASSOCIATION

J. C. Kessler, President, University Hospital, Iowa City.
Robert E. Jameson, Secretary, 1014 First National Bank Bldg., Davenport, Iowa.
Place: Iowa City. Time: Oct. 15, 1935.

NEW ENGLAND DERMATOLOGICAL SOCIETY

Rudolph Jacoby, President, 270 Commonwealth Ave., Boston.
J. Harper Blaisdell, Secretary, 45 Bay State Road, Boston.

SOUTHERN MEDICAL ASSOCIATION, SECTION ON DERMATOLOGY AND SYPHILOLOGY

J. W. Roussel, Chairman, 150 Baronne St., New Orleans.
Cornelius F. Lehmann, Secretary, 303 E. Houston St., Kansas City, Mo.

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* Secretaries of dermatologic societies are requested to furnish the information necessary for the editor to make this list complete and to keep it up to date.

STATE DERMATOLOGIC SOCIETIES

California Medical Association, Scientific Assembly, Dermatology and Syphilology Section

Ernest K. Stratton, Chairman, 490 Post St., San Francisco.
John M. Graves, Secretary, 909 Hyde St., San Francisco.

Florida Society of Dermatology and Syphilology

Chairman for each meeting is elected from city in which meeting is held.
J. J. Saxton, Secretary, 205 Zack St., Tampa.
Place: Miami. Time: February 1935.

Louisiana Dermatological Society

M. T. Van Studdiford, President, 912 Pere Marquette Bldg., New Orleans.
R. A. Oriol, Secretary-Treasurer, Maison Blanche Bldg., New Orleans.

Medical Society of the State of New York, Section on Dermatology and Syphilology

George M. MacKee, Chairman, 200 W. 59th St., New York.
Lopo de Mello, Secretary, Medical Arts Bldg., Syracuse.

Medical Society of the State of Pennsylvania Section on Dermatology

Robert L. Gilman, Chairman, 1930 Chestnut St., Philadelphia.
Fred M. Jacob, Secretary, 7026 Jenkins Arcade Bldg., Pittsburgh.

Michigan State Medical Society, Section on Dermatology and Syphilology

A. R. Woodburne, Chairman, 26 Sheldon Ave., Grand Rapids.
G. Warren Hyde, Secretary, 2501 W. Grand Blvd., Detroit.

Minnesota Dermatological Society

D. D. Turnacliff, President, 407 Medical Arts Bldg., Minneapolis.
L. H. Winer, Secretary, 522 Medical Arts Bldg., Minneapolis.
Time: First Wednesday in October, December, February and April.

Oklahoma State Dermatological Society

C. L. Brundage, President, 1200 N. Walker St., Oklahoma City.
M. M. Wickham, Secretary, 716 W. Symmes St., Norman.

Texas Dermatological Society

C. F. Lehmann, President, 303 E. Houston St., San Antonio.
Everett R. Seale, Secretary, 1215 Walker Ave., Houston.

LOCAL DERMATOLOGIC SOCIETIES

Atlanta Dermatological Society

Francis G. Jones, President, 384 Peachtree St., Atlanta, Ga.
Charles A. Wilkins, Secretary, Medical Arts Bldg., Atlanta, Ga.

Bronx Dermatological Society

Louis Chargin, Chairman, 1 W. 85th St., New York.
Henry Silver, Secretary, 290 West End Ave., New York.

Brooklyn Dermatological Society

Arthur Persky, President, 1750 Ocean Parkway, Brooklyn.
George F. Price, Secretary, 884 Lincoln Place, Brooklyn.
Time: Third Monday of each month except June, July, August and September

Buffalo-Rochester Dermatological Society

Earl D. Osborne, President, 471 Delaware Ave., Buffalo.
Richard L. Saunders, Secretary, 333 Linwood Ave., Buffalo.

Chicago Dermatological Society

James H. Mitchell, President, 25 E. Washington St., Chicago.
Max S. Wien, Secretary, 104 S. Michigan Ave., Chicago.

Cincinnati Dermatological Society

Samuel Goldblatt, President, 3208 Colerain Ave., Cincinnati.
Raymond G. Senour, Secretary-Treasurer, 19 W. 7th St., Cincinnati.

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William G. Saunders, Secretary-Treasurer, 9203 Grand River Ave., Detroit.

Los Angeles Dermatological Society

Moses Scholtz, Chairman, 1930 Wilshire Blvd., Los Angeles.
Nelson P. Anderson, Secretary, 2007 Wilshire Blvd., Los Angeles.

Manhattan Dermatologic Society

Louis B. Mount, Chairman, 256 State St., Albany, N. Y.
Mihran B. Parounagian, Secretary, 126 E. 39th St., New York.

Montreal Dermatological Society

Alberic Marin, President, 1414 Drummond St., Montreal, Canada.
Paul Poirier, Secretary, 2073 St. Denis St., Montreal, Canada.

New York Academy of Medicine, Section of Dermatology and Syphilis

Ray H. Rulison, Chairman, 145 E. 54th St., New York.
E. William Abramowitz, Secretary, 853, 7th Ave., New York.

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Vaughn C. Garner, Secretary, Greene and Coulter Sts., Philadelphia.

Pittsburgh Dermatological Society

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J. Cavanaugh, Secretary, 28 Market St., Youngstown, Ohio.

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Richard S. Weiss, President, 3720 Washington Blvd., St. Louis.
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